Color Television | Chassis

# Service
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# Service

# 32R5
# 7538

# ServiceManual

## Contents



## Contents




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**WARNING:** Before removing the CRT anode cap, turn the unit **OFF** and short the **HIGH VOLTAGE** to the **CRT DAG** ground.

**SERVICE NOTE:** The **CRT DAG** is not at chassis ground.

## IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Philips Consumer Electronics Company** Equipment. The service procedures recommended by Philips and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various **CAUTIONS** and **NOTICES** which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these **CAUTIONS** and **NOTICES ARE NOT EXHAUSTIVE**. Philips could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Philips has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Philips must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

** Hereafter throughout this manual, Philips Consumer Electronics Company will be referred to as Philips.

## WARNING

Critical components having special safety characteristics are identified with a ⚠ or **"S"** by the Ref. No. in the parts list and enclosed within a broken line* (where several critical components are grouped in one area) along with the safety symbol ⚠ on the schematics or exploded views. Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire, or other hazards. Under no circumstances should the original design be modified or altered without written permission from Philips. Philips assumes no liability, express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.

* Broken Line ____ _ ____ _ ____ _ ____

## SAFETY CHECKS

After the original service problem has been corrected, a complete safety check should be made. Be sure to check over the entire set, not just the areas where you have worked. Some previous servicer may have left an unsafe condition, which could be unknowingly passed on to Your customer. Be sure to check all of the following:

## FIRE AND SHOCK HAZARD

1. Be sure all components are positioned in such a way as to avoid the possibility of adjacent component shorts. This is especially important on those chassis which are transported to and from the service shop.

2. Never release a repaired unit unless all protective devices such as insulators, barriers, covers, strain reliefs, and other hardware have been installed in accordance with the original design.

3. Soldering and wiring must be inspected to locate possible cold solder joints, solder splashes, sharp solder points, frayed leads, pinched leads, or damaged insulation (including the ac cord). Be certain to remove loose solder balls and all other loose foreign particles.

4. Check across-the-line components and other components for physical evidence of damage or deterioration and replace if necessary. Follow original layout, lead length, and dress.

5. No lead or component should touch a receiving tube or a resistor rated at 1 watt or more. Lead tension around protruding metal surfaces or edges must be avoided.

6. Critical components having special safety characteristics are identified with an **'S'** by the Ref. No. in the parts list and enclosed within a broken line* (where several critical components are grouped in one area) along with the safety symbol ⚠ on the schematic diagrams and /or exploded views.

7. When servicing any unit, always use a separate isolation transformer for the chassis. Failure to use a separate isolation transformer may expose you to possible shock hazard, and may cause damage to servicing instruments.

8. Many electronic products use a polarized ac line cord (one wide pin on the plug). Defeating this safety feature may create a potential hazard to the servicer and the user. Extension cords which do not incorporate the polarizing feature should never be used.

9. After reassembly of the unit, always perform an ac leakage test or resistance test from the line cord to all exposed metal parts of the cabinet. Also, check all metal control shafts (with knobs removed), antenna terminals, handles, screws, etc., to be sure the unit may be safely operated without danger of electrical shock.

*** Broken line ____ _ ____ _ ____ _ ____**

## IMPLOSION

1. All picture tubes used in current model receivers are equipped with an integral implosion system. Care should always be used, and safety glasses worn, whenever handling any picture tube. Avoid scratching or otherwise damaging the picture tube during installation.

2. Use only replacement tubes specified by the manufacturer.

## X-RADIATION

1. Be sure procedures and instructions to all your service personnel cover the subject of X-radiation. Potential sources of X-rays in TV receivers are the picture tube and the high voltage circuits. The basic precaution which must be exercised is to keep the high voltage at the factory recommended level.

2. To avoid possible exposure to X-radiation and electrical shock, only the manufacturer's specified anode connectors must be used.

3. It is essential that the service technician has an accurate HV meter available at all times. The calibration of this meter should be checked periodically against a reference standard.

4. When the HV circuitry is operating properly there is no possibility of an X-radiation problem. High voltage should always be kept at the manufacturer's rated value - no higher - for optimum performance. Every time a color set is serviced, the brightness should be run up and down while monitoring the HV with a meter to be certain that the HV is regulated correctly and does not exceed the specified value. We suggest that you and your technicians review test procedures so that HV and HV regulation are always checked as a standard servicing procedure, and the reason for this prudent routine is clearly understood by everyone. It is important to use an accurate and reliable HV meter. It is recommended that the HV reading be recorded on each customer's invoice, which will demonstrate a proper concern for the customer's safety.

5. When troubleshooting and making test measurements in a receiver with a problem of excessive high voltage, reduce the line voltage by means of a Variac to bring the HV into acceptable limits while troubleshooting. Do not operate the chassis longer than necessary to locate the cause of the excessive HV.

6. New picture tubes are specifically designed to withstand higher operating voltages without creating undesirable X-radiation. It is strongly recommended that any shop test fixture which is to be used with the new higher voltage chassis be equipped with one of the new type tubes designed for this service. Addition of a permanently connected HV meter to the shop test fixture is advisable. The CRT types used in these new sets should never be replaced with any other types, as this may result in excessive X-radiation.

7. It is essential to use the specified picture tube to avoid a possible X-radiation problem.

8. Most TV receivers contain some type of emergency "Hold Down" circuit to prevent HV from rising to excessive levels in the presence of a failure mode. These various circuits should be understood by all technicians servicing them, especially since many hold down circuits are inoperative as long as the receiver performs normally.

## LEAKAGE CURRENT COLD CHECK

1. Unplug the ac line cord and connect a jumper between the two prongs of the plug.

2. Turn on the power switch.

3. Measure the resistance value between the jumpered ac plug and all exposed cabinet parts of the receiver, such as screw heads, antennas, and control shafts. When the exposed metallic part has a return path to the chassis, the reading should be between 1

megohm and 5.2 megohms. When the exposed metal does not have a return path to the chassis, the reading must be infinity. Remove the jumper from the ac line cord.

## LEAKAGE CURRENT HOT CHECK

1. Do not use an isolation transformer for this test. Plug the completely reassembled receiver directly into the ac outlet.

2. Connect a **1.5k, 1OW resistor** paralleled by a **0.15uF. capacitor** between each exposed metallic cabinet part and a **good earth ground** such as a water pipe, as shown below.

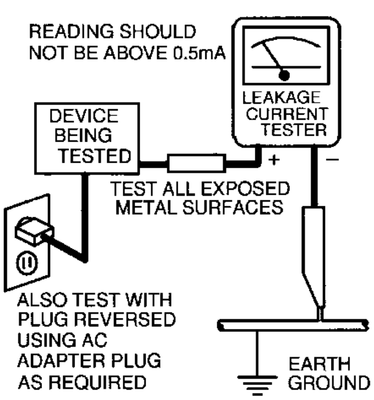
3. Use an ac voltmeter with at least 5000 ohms/volt sensitivity to measure the potential across the resistor.

4. The potential at any point should not exceed 0.75 volts. A leakage current tester may be used to make this test; leakage current must not exceed 0.5milliamp. If a measurement is outside of the specified limits, there is a possibility of shock hazard. The receiver should be repaired and rechecked before returning it to the customer.

5. **Repeat the above procedure with the ac plug reversed.** (Note: An ac adapter is necessary when a polarized plug is used. Do not defeat the polarizing feature of the plug.)

# OR

With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. **(Do not use an isolation transformer during this test.)** Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). **With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milliamp. Reverse the instrument power cord plug in the outlet and repeat the test. See graphic below.**



## PICTURE TUBE REPLACEMENT

The primary source of X-radiation in this television receiver is the picture tube. The picture tube utilized in this chassis is specially constructed to limit X-radiation emissions. For continued X-radiation protection, the replacement tube must be the same type as the original, including suffix letter, or a Philips approved type.

## PARTS REPLACEMENT

Many electrical and mechanical parts in Philips television sets have special safety related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. The use of a substitute part which does not have the same safety characteristics as the Philips recommended replacement part shown in this service manual may create shock, fire, or other hazards

# Chassis Identification and Interchangability

**Chassis Identification**

An identification label is located on the outside of the cabinet back. The first four characters (25R5) indicate the basic chassis series. The next two numbers (01) identify the total Electronic Package in the Cabinet. The last two letters (AA) are used to identify production changes that do not affect the basic function of the chassis versions. Minor changes may not be identified within the letters, however, they will be called out on the schematic as Early Production (E.P.) and Late Production (L.P.) changes. When ordering parts or requesting technical assistance or information, the complete chassis number must be supplied (e.g., 25R501 -OOAA).

**INTERCHANGEABILITY NOTICE**

Important: While the following holds true in most cases, always refer to the most up-to-date service information for confirmation of interchangeability. The 8 digit Base No. identifies a family of assemblies. The remaining 4 characters (called the Group No.) indicate the type of interchangeability within the family.

| | | |
|---|---|---|
| Example: | **Base No.** | **Group No.** |
| | 00APP012 | A001 |

Note: Families having different Base No's. cannot be interchanged.

The ninth digit (first digit of the Group No.) identifies the group interchangeability level. This will be an alpha character. Higher groups may replace lower groups, but lower groups cannot be substituted for higher groups.

Example: 00APP012 A001
00APP012 B002
00APP012 C003

00APP012 B002 can be replaced by a C003 but not by an A001. In addition, a C003 can be used in place of either a B002 or an A001.

The last two digits of the identification number indicate running changes. When a particular identification number is initially assigned, it will be A001. Any change which does not significantly change the operational characteristics or the external wiring configuration is a running change within the group. This allows bidirectional interchangeability within the group. Example: A001 can be used in place of A003, and A003 can be used in place of A001.
However, if a significant change does occur which will only allow higher revision substitution, the group identifier (9th position character) must change.

Example: 00APP012 A001 (Early Production)
00APP012 A002
00APP012 A003
00APP012 B004
00APP012 B005
00APP012 B006 (Late Production

00APP012 A001 is the initial identification number. all assemblies in the "A" group (9th position character) are interchangeable with each other. All of the assemblies in the "B" group are interchangeable with each other, and any "B" group assembly can be substituted for an "A" group. However, an "A" group assembly cannot be substituted for a "B" group assembly.

# Chassis Breakdown List

NOTE: THE LOCATION OF INFORMATION IN THE MANUAL IS INDICATED BY BOTH PAGE NUMBER AND MICROFICHE FRAME NUMBER. PAPER MANUAL USERS SHOULD REFER ONLY TO THE PAGE NUMBERS. MICROFICHE MANUAL USERS SHOULD REFER ONLY TO THE FRAME NUMBERS.
CHASSIS BREAKDOWN NOTES:

1. ITEMS SHOWN INDENTED IN THE PARTS LIST BELOW ARE SUB-ASSEMBLY TYPE ITEMS TO THE ITEM SHOWN ABOVE IT.

\# INDICATES A "NON-REPLACEABLE/REPAIR ONLY TYPE OF ASSEMBLY.

**R5 CHASSIS BREAKDOWN LIST**

20R501

| | | |
|---|---|---|
| | 00APT145 | CRT Module |
| # | 00EMR590 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00AVJ177 | Jack Panel |
| | 003403130005 | Varactor Tuner |

Typical Model: PA5020C1

25R501

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR525 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: 25T222

25R502

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR535 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: TP2526

25R503

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR515 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model:TS2552

25R504

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR545 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: CT2526

25R505

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR555 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: TS2582C1

27R501

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR587 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: CT2747

27R502

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR537 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: CT2743C101

27R503

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR557 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: HD2716

27R504

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR507 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: CC2762

27R505

| | | | |
|---|---|---|---|
| | 00APT146 | CRT Module | |
| # | 00EMR597 | Main Chassis | |
| | 00ALR016 | IR Assembly | |
| | 00AVJ177 | PRO Video Jack Panel | |
| | 00ASW116 | Keyboard | |
| | 00AWR006 | Diode Modulator | 36 |
| | 003403130005 | Varactor Tuner | |

Typical Model: PA5027

27R506

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR543 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: LS2940

27R507

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR563 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: LS2961

27R508

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR573 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: 27TP82

27R509

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR583 | Main Chassis |
| | 00ASW116 | Keyboard |
| | 00ALR016 | IR Assembly |
| | 003403130005 | Varactor Tuner |

Typical Model: LP2970C1

27R510

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR547 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: CC2772

27R511

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR553 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: LS2960

27R512

| | | |
|---|---|---|
| | 00APT146 | CRT Module |

| | | | |
|---|---|---|---|
| # | 00EMR586 | Main Chassis | |
| | 00ALR016 | IR Assembly | |
| | 00ASW116 | Keyboard | |
| | 003403130005 | Varactor Tuner | N /A |

Typical Model: TP2782C1

27R513

| | | | |
|---|---|---|---|
| | 00APT146 | CRT Module | |
| # | 00EMR577 | Main Chassis | |
| | 00ASW116 | Keyboard | |
| | 00ALR016 | IR Assembly | |
| | 003403130005 | Varactor Tuner | |

Typical Model: FS2770B1

32R502

| | | | |
|---|---|---|---|
| | 00APT146 | CRT Module | |
| # | 00EMR562 | Main Chassis | |
| | 00ALR016 | IR Assembly | |
| | 00ASW116 | Keyboard | |
| | 00AWR007 | Diode Modulator | 36 |
| | 003403130005 | Varactor Tuner | |

Typical Model: TP3287C1

32R503

| | | | |
|---|---|---|---|
| | 00APT146 | CRT Module | |
| # | 00EMR532 | Main Chassis | |
| | 00ALR016 | IR Assembly | |
| | 00ASW116 | Keyboard | |
| | 00AWR007 | Diode Modulator | 36 |
| | 003403130005 | Varactor Tuner | |

Typical Model: TS3262C1

32R504

| | | | |
|---|---|---|---|
| | 00APT146 | CRT Module | |
| # | 00EMR542 | Main Chassis | |
| | 00ALR016 | IR Assembly | |
| | 00ASW116 | Keyboard | |
| | 00AWR007 | Diode Modulator | 36 |
| | 003403130005 | Varactor Tuner | |

Typical Model: FS3262

32R505

| | | | |
|---|---|---|---|
| | 00APT146 | CRT Module | |
| # | 00EMR592 | Main Chassis | |
| | 00ALR016 | IR Assembly | |
| | 00ASW116 | Keyboard | |
| | 00AVJ177 | Jack Panel | 35 |
| | 00AWR007 | Diode Modulator | 36 |
| | 003403130005 | Varactor Tuner | |

Typical Model: PA5032C1

32R506

| | | | |
|---|---|---|---|
| | 00APT146 | CRT Module | |
| # | 00EMR582 | Main Chassis | |
| | 00ALR016 | IR Assembly | |
| | 00ASW116 | Keyboard | |
| | 00AWR007 | Diode Modulator | 36 |
| | 003403130005 | Varactor Tuner | |

Typical Model: FP3272A1

32R507

| | | | |
|---|---|---|---|
| | 00APT146 | CRT Module | |
| # | 00EMR512 | Main Chassis | |
| | 00ALR016 | IR Assembly | |
| | 00ASW116 | Keyboard | |
| | 00AWR007 | Diode Modulator | 36 |
| | 003403130005 | Varactor Tuner | |

Typical Model: FS3270

20R501

| | | |
|---|---|---|
| | 00APT145 | CRT Module |
| # | 00EMR590 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00AVJ177 | Jack Panel |
| | 003403130005 | Varactor Tuner |

Typical Model: PA5020C1

25R501

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR525 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: 25T222

25R502

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR535 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: TP2526

25R503

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR515 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model:TS2552

25R504

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR545 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: CT2526

25R505

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR555 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: TS2582C1

27R501

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR587 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: CT2747

27R502

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR537 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: CT2743C101

27R503

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR557 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: HD2716

27R504

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR507 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: CC2762

27R505

| | | | |
|---|---|---|---|
| | 00APT146 | CRT Module | |
| # | 00EMR597 | Main Chassis | |
| | 00ALR016 | IR Assembly | |
| | 00AVJ177 | PRO Video Jack Panel | |
| | 00ASW116 | Keyboard | |
| | 00AWR006 | Diode Modulator | 36 |
| | 003403130005 | Varactor Tuner | |

Typical Model: PA5027

27R506

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR543 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: LS2940

27R507

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR563 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: LS2961

27R508

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR573 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: 27TP82

27R509

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR583 | Main Chassis |
| | 00ASW116 | Keyboard |
| | 00ALR016 | IR Assembly |
| | 003403130005 | Varactor Tuner |

Typical Model: LP2970C1

27R510

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR547 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: CC2772

27R511

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR553 | Main Chassis |
| | 00ALR016 | IR Assembly |
| | 00ASW116 | Keyboard |
| | 003403130005 | Varactor Tuner |

Typical Model: LS2960

27R512

| | | |
|---|---|---|
| | 00APT146 | CRT Module |
| # | 00EMR586 | Main Chassis |

| | | | |
|---|---|---|---|
| | 00ALR016 | IR Assembly | |
| | 00ASW116 | Keyboard | |
| | 003403130005 | Varactor Tuner | N /A |

Typical Model: TP2782C1

27R513

| | | | |
|---|---|---|---|
| | 00APT146 | CRT Module | |
| # | 00EMR577 | Main Chassis | |
| | 00ASW116 | Keyboard | |
| | 00ALR016 | IR Assembly | |
| | 003403130005 | Varactor Tuner | |

Typical Model: FS2770B1

32R502

| | | | |
|---|---|---|---|
| | 00APT146 | CRT Module | |
| # | 00EMR562 | Main Chassis | |
| | 00ALR016 | IR Assembly | |
| | 00ASW116 | Keyboard | |
| | 00AWR007 | Diode Modulator | 36 |
| | 003403130005 | Varactor Tuner | |

Typical Model: TP3287C1

32R503

| | | | |
|---|---|---|---|
| | 00APT146 | CRT Module | |
| # | 00EMR532 | Main Chassis | |
| | 00ALR016 | IR Assembly | |
| | 00ASW116 | Keyboard | |
| | 00AWR007 | Diode Modulator | 36 |
| | 003403130005 | Varactor Tuner | |

Typical Model: TS3262C1

32R504

| | | | |
|---|---|---|---|
| | 00APT146 | CRT Module | |
| # | 00EMR542 | Main Chassis | |
| | 00ALR016 | IR Assembly | |
| | 00ASW116 | Keyboard | |
| | 00AWR007 | Diode Modulator | 36 |
| | 003403130005 | Varactor Tuner | |

Typical Model: FS3262

32R505

| | | | |
|---|---|---|---|
| | 00APT146 | CRT Module | |
| # | 00EMR592 | Main Chassis | |
| | 00ALR016 | IR Assembly | |
| | 00ASW116 | Keyboard | |
| | 00AVJ177 | Jack Panel | 35 |
| | 00AWR007 | Diode Modulator | 36 |
| | 003403130005 | Varactor Tuner | |

Typical Model: PA5032C1

32R506

| | | | |
|---|---|---|---|
| | 00APT146 | CRT Module | |
| # | 00EMR582 | Main Chassis | |
| | 00ALR016 | IR Assembly | |
| | 00ASW116 | Keyboard | |
| | 00AWR007 | Diode Modulator | 36 |
| | 003403130005 | Varactor Tuner | |

Typical Model: FP3272A1

32R507

| | | | |
|---|---|---|---|
| | 00APT146 | CRT Module | |
| # | 00EMR512 | Main Chassis | |
| | 00ALR016 | IR Assembly | |
| | 00ASW116 | Keyboard | |
| | 00AWR007 | Diode Modulator | 36 |
| | 003403130005 | Varactor Tuner | |

Typical Model: FS3270

## Model to Chassis List

| MODELS | SCREEN SIZE | CHASSIS |
|---|---|---|
| **CROSLEY** | | |
| CT2526C102 | 25" | 25R504 |
| CC2762A101 | 27" | 27R504 |
| CC2772A101 | 27" | 27R510 |
| CT2743C101 | 27" | 27R502 |
| CT2747C101 | 27" | 27R501 |
| CT2747C102 | 27" | 27R512 |
| CC3262A101 | 32" | 32R504 |
| CT3212C101 | 32" | 32R503 |
| **MAGNAVOX** | | |
| 25TS52C203 | 25" | 25R503 |
| 25TS72C101 | 25" | 25R503 |
| TP2592B102 | 25" | 25R501 |
| TS2572C103 | 25" | 25R504 |
| TP2526C102 | 25" | 25R502 |
| TS2582C102 | 25" | 25R505 |
| TS2552C203 | 25" | 25R503 |
| FS2762A101 | 27" | 27R504 |
| FP2772A101 | 27" | 27R510 |
| FP2774B101 | 27" | 27R510 |
| FS2770B101 | 27" | 27R513 |
| HD2716C101 | 27" | 27R503 |
| 27TP82C101 | 27" | 27R501 |
| 27TP82C102 | 27" | 27R512 |
| 27TS73C101 | 27" | 27R502 |
| TP2782C101 | 27" | 27R501 |
| TP2782C102 | 27" | 27R512 |
| TS2773C101 | 27" | 27R502 |
| XS2773C101 (Canada) | 27" | 27R502 |
| FP3272A101 | 32" | 32R506 |
| FP3274B101 | 32" | 32R506 |
| FS3262A101 | 32" | 32R504 |
| FS3270B101 | 32" | 32R507 |
| XS3272C101 (Canada) | 32" | 32R503 |
| TP3287C101 | 32" | 32R502 |
| TP3262C101 | 32" | 32R503 |
| TS3262C101 | 32" | 32R503 |
| TS3272C101 | 32" | 32R502 |
| **PHILIPS** | | |
| PA5020C101 | 20" | 20R501 |
| 27T502C101 | 27" | 27R501 |
| 27T502C102 | 27" | 27R512 |
| LP2970C101 (Latin) | 29" | 27R509 |
| LP2971C101 (Latin) | 29" | 27R508 |
| LS2940C101 (Latin) | 29" | 27R506 |
| LS2960C101 (Latin) | 29" | 27R511 |
| LS2961C101 (Latin) | 29" | 27R507 |
| PA5027C101 (Latin) | 27" | 27R505 |
| PA5032C101 | 32" | 32R505 |

## REPLACEMENT PANEL LIST

# INDICATES A "NON-REPLACEABLE/REPAIR ONLY" TYPE OF ASSEMBLY

| | | |
|---|---|---|
| 00ALR000 A001 | Remote Receiver Module | 4835 219 57541 |
| 00APT146 A001 | CRT Module | 4835 219 57544 |
| 00ASW116 A001 | Keyboard Module | 4835 219 57545 |
| 00AVJ177 A001 | Jack Panel | 4835 219 57551 |
| 00AWR006 A001 | Diode Modulator | 4835 219 57553 |
| 00AWR007 A001 | Diode Modulator | 4835 219 57538 |

| | | |
|---|---|---|
| 00EMR507 A002 | Main Chassis | 4835 219 28234 |
| 00EMR512 A002 | Main Chassis | 4835 219 28235 |
| 00EMR515 A002 | Main Chassis | 4835 219 28228 |
| 00EMR525 A002 | Main Chassis | 4835 219 28236 |
| 00EMR532 A002 | Main Chassis | 4835 219 28237 |
| 00EMR535 A002 | Main Chassis | 4835 219 28238 |
| 00EMR537 A002 | Main Chassis | 4835 219 28239 |
| 00EMR542 A002 | Main Chassis | 4835 219 28241 |
| 00EMR543 A002 | Main Chassis | 4835 219 28242 |
| 00EMR545 A002 | Main Chassis | 4835 219 28243 |
| # 00EMR547 A002 | Main Chassis | 4835 219 28244 |
| # 00EMR553 A002 | Main Chassis | 4835 219 28245 |
| # 00EMR555 A002 | Main Chassis | 4835 219 28246 |
| # 00EMR557 A002 | Main Chassis | 4835 219 28247 |
| # 00EMR562 A002 | Main Chassis | 4835 219 28248 |
| # 00EMR563 A002 | Main Chassis | 4835 219 28249 |
| # 00EMR573 A002 | Main Chassis | 4835 219 28251 |
| # 00EMR577 A002 | Main Chassis | 4835 219 28252 |
| # 00EMR582 A002 | Main Chassis | 4835 219 28253 |
| # 00EMR583 A002 | Main Chassis | 4835 219 28254 |
| # 00EMR586 A002 | Main Chassis | 4835 219 28255 |
| # 00EMR587 A002 | Main Chassis | 4835 219 28256 |
| # 00EMR590 A002 | Main Chassis | 4835 219 28257 |
| # 00EMR592 A002 | Main Chassis | 4835 219 28258 |
| # 00EMR597 A002 | Main Chassis | 4835 219 28259 |

# REMOTE TRANSMITTER REPLACEMENT LIST

| Description | Part Number |
|---|---|
| H145DA BA02 | 4835 219 17599 |
| M145DA BA02 | 4835 219 17609 |
| M145DB BA02 | 4835 219 17591 |
| H175CD BA02 | 4835 219 17604 |
| M175CB BA02 | 4835 219 17606 |
| M175CD BA02 | 4835 219 17607 |
| M175DA BA02 | 4835 219 17608 |
| M175DB BA02 | 4835 219 17592 |
| T225AG MA02 | 4835 219 17582 |

**Battery Doors for Remote Transmitters:**

| | |
|---|---|
| H175CD,M175CB,M175CD,M175DA,M175DB | 4835 432 37084 |
| H145DA, M145DB, M145DA | 4835 432 37081 |
| T225AG | 4835 432 37085 |

**REMOTE TRANSMITTER BATTERY DOORS**

| P/N(Batt Door) | REMOTE |
|---|---|
| 4835 432 37081 | G145DA BA02, G145DB BA02, |
| 4835 432 37081 | H145DB BA02, M145DA BA02, |
| 4835 432 37081 | M145DB BA02 |
| 4835 432 37084 | H175DA BA02, H175DB BA02, |
| 4835 432 37084 | H175DD BA02, M175DA BA02, |
| 4835 432 37084 | M175DB BA02 |
| 4835 432 37085 | T214AG GA03, T225AG MA02 |
| 4835 432 37085 | T225AG PH02 |

**REMOTE TRANSMITTER TO MODEL LIST**

**BELL & HOWELL**

| | |
|---|---|
| G145DA BA02 | GNB128 |
| G145DB BA02 | GNB127, 128 |

**CROSLEY**

| | |
|---|---|
| G145DA BA02 | CT2526, CC2762, CT2743, CC3262, CT3212 |
| G145DB BA02 | CC2772, CC2744, CT2747 |

**PHILIPS**

| | |
|---|---|
| T214AG GA03 | PA5020, PA5027, PA5032 |
| T225AG PH02 | LS2940 |
| H175DA BA02 | 25PS82, LS2961 |
| H175DB BA02 | 27T502 |
| H175DD BA02 | LP2970, LP2971 |

**MAGNAVOX**

| | |
|---|---|
| M145DA BA02 | 25TS72, TS2572, FS2762, FS2770, 27TS73, FS3262, XS3272, TS3272 |
| M145DB BA02 | TP2526, FP2772, FP2774, FP3272 |
| M175DA BA02 | TS2582 |
| M175DB BA02 | TP2592, 27TP82, TP2782, TP3287 |
| T225AG MA02 | 25TS52, TS2552, HD2716, XS2773 |

# Model Replacement Parts List

**MODEL REPLACEMENT PARTS LISTS**

**NOTE: THE "S" IN THE LEFT COLUMN INDICATES THE PART IS A CRITICAL SAFETY COMPONENT AND SHOULD BE REPLACED ONLY WITH THE PHILIPS PART NUMBER.**

**BELL & HOWELL**

**GNB1271106,1107, 1108 27"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97579 | Back |
| | 4835 410 37244 | Button Asm. |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67214 | Crystal |
| S | 4835 131 27123 | CRT A68AGN32X (1106. 1108) |
| S | 4835 131 27134 | CRT A68AGN32X02 (1107) |
| S | 4835 150 27008 | Convergence & Purity Asm. (1106, 1108) |
| S | 4835 150 17098 | Deflection Yoke (1106,1108) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 67134 | Front |
| | 4835 459 17532 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 37022 | Speaker 3" (2 used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 734 5E001 | Owner's Manual |

**GNB1281102,1104 32"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97599 | Back |
| | 4835 410 37246 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67211 | Crystal |
| S | 4835 131 27106 | CRT A80EFF272X53 (1102, 1104) |
| S | 4835 157 97052 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 450 67200 | Lens, IR |
| | 4835 459 17532 | Nameplate |
| | 4835 459 17519 | Overlay |

| | | |
|---|---|---|
| | 4835 240 27007 | Speaker 2.25X5" (2 used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 734 4E001 | Owner's Manual |

**GNB12911029 1103 32"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97599 | Back |
| | 4835 410 37237 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| S | 4835 131 27106 | CRT A80EFF272X53 |
| S | 4835 157 97052 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 67133 | Front |
| | 4835 450 67200 | Lens, IR |
| | 4835 459 17532 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 27017 | Speaker 2.25X5" (2 used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 734 3EO01 | Owner's Manual |

**CROSLEY**

**CT2526C101,C102 25"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97505 | Back |
| | 4835 410 97024 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67203 | Crystal |
| S | 4835 131 27091 | CRT A63AFW42X (C101) |
| S | 4835 131 27127 | CRT A63AFW36X (C102) |
| S | 4835 150 27008 | Convergence & Purity Asm. |
| S | 4835 150 17116 | Deflection Yoke |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97077 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 57165 | Front |
| | 4835 450 67202 | Lens,IR |
| | 4835 459 17522 | Nameplate |
| | 4835 459 17519 | Overlay, Jack Panel |
| | 4835 432 17748 | Jack Panel (Plastic) |
| | 4835 240 37002 | Speaker 3" (2 used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 7203EO01 | Owner's Manual |
| | 001B 7203F001 | Owner's Manual |

**C2762A101,A102,A103 27"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97582 | Back |
| | 4835 410 97027 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67218 | Crystal |
| S | 4835 131 27123 | CRT A68AGN32X (A101, A103) |
| S | 4835 131 27134 | CRT A68AGN32XO2 (A102) |
| S | 4835 150 27008 | Convergence & Purity Asm. (A101, A103) |
| S | 4835 150 17098 | Deflection Yoke (A101, A103) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 432 67216 | Front Grille Asm. |
| | 4835 450 67202 | Lens, IR |
| | 4835 459 17516 | Nameplate |

| | | |
|---|---|---|
| | 4835 459 17524 | Overlay |
| | 4835 240 37024 | Speaker 3X5" (2 used) |
| | 4835 138 17047 | Battery f[Transmitter (1.5V) |
| | 001B 722 6E001 | Owner's Manual |
| | 001B 722 6E001 | Owner's Manual |

**CC2772A101,A102,A103 27"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97582 | Back |
| | 4835 410 97027 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67218 | Crystal |
| S | 4835 131 27123 | CRT A68AGN32X(A101,A103) |
| S | 4835 131 27134 | CRT A68AGN32XO2 (A102) |
| S | 4835 150 27008 | Convergence & Purity Asm. (A101, A103) |
| S | 4835 150 17098 | Deflection Yoke (A101, A103) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 432 67216 | Front Grille Asm. |
| | 4835 450 67202 | Lens, IR |
| | 4835 459 17516 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 37024 | Speaker 3X5" (2 used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 724 6E001 | Owner's Manual |
| | 001B 724 6F0OI | Owner's Manual |

**CC2774B101, B102, B103 27"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97582 | Back |
| | 4835 410 97027 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67218 | Crystal |
| S | 4835 131 27123 | CRT A68AGN32X (B101, B103) |
| S | 4835 131 27134 | CRT A68AGN32XO2 (B102) |
| S | 4835 150 27008 | Convergence & Purity Asm. (B101, B103) |
| S | 4835 150 17098 | Deflection Yoke (B101, B103) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 432 67216 | Front Grille Asm. |
| | 4835 459 17516 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 37024 | Speaker 3X5 (2 used) |
| | 4835 138 17047 | Battery fiTransmitter (1.5V) |
| | 001B 724 6E001 | Owner's Manual |
| | 001B 724 6F001 | Owner's Manual |

**CT2743C101,C102,C103,C104 27"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97579 | Back |
| | 4835 432 17667 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67213 | Crystal |
| S | 4835 131 27119 | CRT A68KR088X(D) (C102) |
| S | 4835 131 27123 | CRT A68AGN32X (C101, C104) |
| S | 4835 131 27134 | CRT A68AGN32XO2 (C103) |
| S | 4835 150 27008 | Converg. & Purity Asm. (C101, C102, C104) |
| S | 4835 150 17103 | Deflection Yoke (C102) |
| S | 4835 150 17098 | Deflection Yoke (C101, C104) |

| | | |
|---|---|---|
| | 4835 535 27006 | Yoke Wedges (3 used) C101, C102, C104 |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 67141 | Front (C101, C103, C104) |
| | 4835 430 67142 | Front (C102) |
| | 4835 450 67202 | Lens, IR |
| | 4835 459 17522 | Nameplate |
| | 4835 459 17519 | Overlay, Jack Panel |
| | 4835 240 27007 | Speaker 2.25X5 (2 used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 7223E001 | Owner's Manual |
| | 001B 7223F001 | Owner's Manual |

**CT2747C101,C103,C104 27"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| S | 4835 432 97579 | Back |
| S | 4835 410 37244 | Button Asm. |
| S | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67214 | Crystal |
| S | 4835 131 27123 | CRT A68AGN32X (C101, C104) |
| S | 4835 131 27134 | CRT A68AGN32XO2 (C103) |
| S | 4835 150 27008 | Converg. & Purity Asm. (C101, C104) |
| S | 4835 150 17098 | Deflection Yoke (C101, C104) |
| | 4835 535 27006 | Yoke Wedges (3 used) (C101, C104) |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 67134 | Front |
| | 4835 459 17522 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 37022 | Speaker 2.25X5 (2 used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 721 9E001 | Owner's Manual |
| | 001B 721 9E001 | Owner's Manual |

**CC3262A101, A103 32"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97583 | Back |
| | 4835 410 97027 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67218 | Crystal |
| S | 4835 131 27106 | CRT A80EFF272X53(A101,A103) |
| S | 4835 157 97052 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 432 67214 | Front Grille Asm. |
| | 4835 450 67202 | Lens, IR |
| | 4835 459 17516 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 37024 | Speaker 3X5 (2 used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 722 6E001 | Owner's Manual |
| | 001B 722 6F001 | Owner's Manual |

**CT3212C101,C103 32"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97578 | Back |
| | 4835 410 37246 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67218 | Crystal |
| S | 4835 131 27106 | CRT ABOEFF272X53 (C101, C103) |
| S | 4835 157 97052 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |

| | | |
|---|---|---|
| | 4835 430 67122 | Front |
| | 4835 450 67200 | Lens, IR |
| | 4835 459 17522 | Nameplate |
| | 4835 459 17519 | Overlay, Jack Panel |
| | 4835 240 27007 | Speaker 2.25X5" (2 used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 721 8E001 | Owner's Manual |
| | 001B 721 8F001 | Owner's Manual |

**MAGNAVOX**

**25TS52C202,C203 25"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97505 | Back |
| | 4835 410 97024 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67203 | Crystal |
| S | 4835 131 27091 | CRT A63AFW42X (C202) |
| S | 4835 131 27127 | CRT A63AFW36X (C203) |
| S | 4835 150 27008 | Convergence & Purity Asm. |
| S | 4835 150 17116 | Deflection Yoke |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97077 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 57165 | Front |
| | 4835 459 17517 | Nameplate |
| | 4835 459 17518 | Overlay |
| | 4835 432 17748 | Jack Panel (Plastic) |
| | 4835 240 37002 | Speaker 3" (2 used) |
| | 4835 138 17001 | Battery f/Transmitter (AAA) |
| | 001B 730 2E001 | Owner's Manual |

**25TS72C101,C103 25"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97505 | Back |
| | 4835 410 97024 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67203 | Crystal |
| S | 4835 131 27091 | CRT A63AFW42X (C101) |
| S | 4835 131 27127 | CRT A63AFW36X (C103) |
| S | 4835 150 27008 | Convergence & Purity Asm. |
| S | 4835 150 17116 | Deflection Yoke |
| S | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97077 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 57165 | Front |
| | 4835 459 17517 | Nameplate |
| | 4835 459 17518 | Overlay |
| | 4835 432 17748 | Jack Panel (Plastic) |
| | 4835 240 37002 | Speaker 3" (2 used) |
| | 4835 138 17047 | Battery f/Transmifter (1.5V) |
| | 001B 721 4E001 | Owner's Manual |

**TS2572C101,C103 25"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| S | 4835 432 97505 | Back |
| S | 4835 410 37233 | Button Asm. |
| S | 4835 256 97264 | Clip, Anode Lead |
| S | 4835 450 67205 | Crystal |
| S | 4835 131 27091 | CRT A63AFW42X (C101) |

| | | |
|---|---|---|
| S | 4835 131 27127 | CRT A63AFW36X (C103) |
| S | 4835 150 27008 | Convergence & Purity Asm. |
| S | 4835 150 17116 | Deflection Yoke |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97077 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 57163 | Front |
| | 4835 459 17517 | Nameplate |
| | 4835 459 17519 | Overlay |
| | 4835 432 17748 | Jack Panel (Plastic) |
| | 4835 240 37002 | Speaker 3" (2 used) |
| | 4835 138 17047 | Battery f[Transmifter (1.5V) |
| | 001B 721 3E001 | Owner's Manual |

**TP2592B101, B102   25"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97505 | Back |
| | 4835 410 37233 | Button Asm. |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67205 | Crystal |
| S | 4835 131 27091 | CRT A63AFW42X (B101) |
| S | 4835 131 27127 | CRT A63AFW36X (B102) |
| S | 4835 150 27008 | Convergence & Purity Asm. |
| S | 4835 150 17116 | Deflection Yoke |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97077 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 57174 | Front |
| | 4835 459 17534 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 432 17748 | Jack Panel (Plastic) |
| | 4835 240 37022 | Speaker 3" (2 used) |
| | 4835 138 17012 | Battery f/Transmitter (AA) |
| | 001B 720 8E001 | Owner's Manual |

TP2526,C101, C102  25"

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| S | 4835 432 97505 | Back |
| S | 4835 410 97024 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67203 | Crystal |
| S | 4835 131 27091 | CRT A63AFW42X (C101) |
| S | 4835 131 27127 | CRT A63AFW36X (C102) |
| S | 4835 150 27008 | Convergence & Purity Asm. |
| S | 4835 150 17116 | Deflection Yoke |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97077 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 57165 | Front |
| | 4835 450 67202 | Lens, IR |
| | 4835 459 17517 | Nameplate |
| | 4835 459 17523 | Overlay, Jack Panel |
| | 4835 432 17748 | Jack Panel (Plastic) |
| | 4835 240 37002 | Speaker 3" (2 used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 721 1E001 | Owner's Manual |

**TS2552C202,C203   25"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| S | 4835 432 97505 | Back |

| | | |
|---|---|---|
| S | 4835 410 37233 | Button Asm. |
| S | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67205 | Crystal |
| S | 4835 131 27091 | CRT A63AFW42X (C202) |
| S | 4835 131 27127 | CRT A63AFW36X (C203) |
| S | 4835 150 27008 | Convergence & Purity Asm. |
| S | 4835 150 17116 | Deflection Yoke |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97077 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 57163 | Front |
| | 4835 459 17517 | Nameplate |
| | 4835 459 17518 | Overlay |
| | 4835 432 17748 | Jack Panel (Plastic) |
| | 4835 240 37002 | Speaker 3" (2 used) |
| | 4835 138 17001 | Battery f/Transmitter (AAA) |
| | 001B 730 1E001 | Owner's Manual |

**TS2582C101, C102   25"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97505 | Back |
| | 4835 410 37233 | Button Asm. |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 432 17739 | Crystal |
| S | 4835 131 27091 | CRT A63AFW42X (C101) |
| S | 4835 131 27127 | CRT A63AFW36X (C102) |
| S | 4835 150 27008 | Convergence & Purity Asm. |
| S | 4835 150 17116 | Deflection Yoke |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97077 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 57163 | Front |
| | 4835 459 17517 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 432 17748 | Jack Panel (Plastic) |
| | 4835 240 37002 | Speaker 3" (2 used) |
| | 4835 138 17012 | Battery f/Transmitter (AA) |
| | 001B 730 3E002 | Owner's Manual |

**FS2762A101,A102,A103   27"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97582 | Back |
| | 4835 410 97027 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67218 | Crystal |
| S | 4835 131 27123 | CRT A68AGN32X(A101,A103) |
| S | 4835 131 27134 | CRT A68AGN32XO2 (A102) |
| S | 4835 150 27008 | Convergence & Purity Asm. (A101, A103) |
| S | 4835 150 17098 | Deflection Yoke (A101, A103) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 432 67216 | Front Grille Asm. |
| | 4835 459 17514 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 37024 | Speaker 3X5" (2 used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 722 5E001 | Owner's Manual |

**FP2772A101,A102,A103 27"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |

| | | |
|---|---|---|
| | 4835 432 97582 | Back |
| | 4835 410 97027 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67218 | Crystal |
| S | 4835 131 27123 | CRT A68AGN32X (A101, A103) |
| S | 4835 131 27134 | CRT A68AGN32XO2(A102) |
| S | 4835 150 27008 | Convergence & Purity Asm. (A101, A103) |
| S | 4835 150 17098 | Deflection Yoke (A101, A103) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 432 67216 | Front Grille Asm. |
| | 4835 459 17514 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 37024 | Speaker 3XV (2 used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 724 5E001 | Owner's Manual |

**FP2774B101,B102,B103 27"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97582 | Back |
| | 4835 410 97027 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67218 | Crystal |
| S | 4835 131 27123 | CRT A68AGN32X (B101, B103) |
| S | 4835 131 27134 | CRT A68AGN32XO2 (B102) |
| S | 4835 150 27008 | Convergence & Purity Asm. (B101, B103) |
| S | 4835 150 17098 | Deflection Yoke (B101, B103) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 432 67216 | Front Grille Asm. |
| | 4835 459 17514 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 37024 | Speaker 3X5"(2 used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 724 5E001 | Owner's Manual |

**FS2770B101, B102, B103 27"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97585 | Back |
| | 4835 410 97027 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67218 | Crystal |
| S | 4835 131 27123 | CRT A68AGN32X (B101, B103) |
| S | 4835 131 27134 | CRT A68AGN32XO2 (B102) |
| S | 4835 150 27008 | Convergence & Purity Asm. (B101 B103) |
| S | 4835 150 17098 | Deflection Yoke (B101, B103) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 432 67217 | Front Grille Asm. |
| | 4835 459 17514 | Nameplate |
| | 4835 459 17519 | Overlay |
| | 4835 240 37024 | Speaker 3X5" (2 used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |

HD2716C101,C102,C103 27"

| | | |
|---|---|---|
| S | 4835 321 17077 | AC Cord |
| | 4835 432 97579 | Back |
| | 4835 432 17667 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |

| | | |
|---|---|---|
| | 4835 450 67213 | Crystal |
| S | 4835 131 27123 | CRT A68AGN32X(C101,C103) |
| S | 4835 131 27134 | CRT A68AGN32XO2 (C102) |
| S | 4835 150 27008 | Convergence & Purity Asm. (C101, C103) |
| S | 4835 150 17098 | Deflection Yoke (C101, C103) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coll |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4834 430 67132 | Front |
| | 4835 450 67202 | Lens, IR |
| | 4835 459 17517 | Nameplate |
| | 4835 459 17518 | Overlay |
| | 4835 240 27007 | Speaker 2.25XV (2 used) |
| | 4835 138 17001 | Battery f/Transmitter |
| | 001B 739 2E001 | Owner's Manual |

**27TP82C101,C102,C103,C104 27"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97579 | Back |
| | 4835 410 37244 | Button Asm. |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67214 | Crystal |
| S | 4835 131 27117 | CRT A68AGN33X (C102) |
| S | 4835 131 27123 | CRT A68AGN32X (C101, C104) |
| S | 4835 131 27134 | CRT A68AGN32XO2 (C103) |
| S | 4835 150 27008 | Convergence & Purity Asm. (C101, C102, C104) |
| S | 4835 150 17098 | Def lection Yoke (C1 01, C104) |
| S | 4835 150 17113 | Deflection Yoke (C102) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coll |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 67134 | Front |
| | 4835 459 17517 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 37022 | Speaker 3" (2 used) |
| | 4835 138 17012 | Battery f/Transmitter (AA) |
| | 001B 722 8E001 | Owner's Manual |

**27TS73C101,C102,C103,C104,C105 27"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97579 | Back |
| | 4835 432 17667 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67214 | Crystal |
| S | 4835 131 27119 | CRT A68KRQ88X (C102, C105) |
| S | 4835 131 27123 | CRT A68AGN32X(C101,C104) |
| S | 4835 131 27127 | CRT A68AGN32XO2 (C103) |
| S | 4835 150 27008 | Converg. & Purity Asm.(C101,C102,C104,C105) |
| S | 4835 150 17103 | Deflection Yoke (C102, C105) |
| S | 4835 150 17098 | Def lection Yoke (C101, C103) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 67141 | Front (C101, C103 C104) |
| | 4835 430 67142 | Front (C102, C105) |
| | 4835 450 67202 | Lens, IR |
| | 4835 459 17517 | Nameplate |
| | 4835 459 17519 | Overlay, Jack Panel |
| | 4835 240 27007 | Speaker 2.25X5" (used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |

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|---|---|---|
| | 001B 721 2E001 | Owner's Manual |

**TS2752C201,C202,C205 27"**

| | | |
|---|---|---|
| S | 4835 219 47173 | Ant. Isolator |
| | 4835 219 47174 | Nut f/Isolator |
| | 4835 219 47175 | Washer f/Isolator |
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97579 | Back |
| | 4835 432 17667 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67214 | Crystal |
| S | 4835 131 27123 | CRT A68AGN32X (C201, C205) |
| S | 4835 131 27127 | CRT A68AGN32XO2 (C202) |
| S | 4835 150 27008 | Convergence & Purity Asm. (C201, C205) |
| S | 4835 150 17098 | Deflection Yoke (C201, C205) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 67132 | Front |
| | 4835 450 67202 | Lens, IR |
| | 4835 459 17517 | Nameplate |
| | 4835 459 17518 | Overlay |
| | 4835 240 27007 | Speaker 2.25X5" (used) |
| | 4835 138 17001 | Battery f/Transmitter |
| | 001B 734 7E001 | Owner's Manual |

**TS2776C101, C102, C103 27"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97579 | Back |
| | 4835 410 37244 | Button Asm. |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67214 | Crystal |
| S | 4835 131 27123 | CRT A68AGN32X (C101, C103) |
| S | 4835 131 27134 | CRT A68AGN32XO2 (C102) |
| S | 4835 150 27008 | Converg. & Purity Asm. (C101, C103) |
| S | 4835 150 17098 | Deflection Yoke (C101, C103) |
| | 4835 535 27006 | Yoke Wedges (3 used) (C101, C103) |
| S | 4835 157 97058 | Degaussing Coll |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 67126 | Front |
| | 4835 459 17517 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 37002 | Speaker 3" (2 used) |
| | 4835 138 17012 | Battery f/Transmitter |
| | 001B 730 3E002 | Owner's Manual |

**TP2777C101, C102, C103 27"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97581 | Back |
| | 4835 410 37245 | Button Asm. |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67209 | Crystal |
| S | 4835 131 27123 | CRT A68AGN32X (C101, C103) |
| S | 4835 131 27134 | CRT A68AGN32XO2 (C102) |
| S | 4835 150 27008 | Convergence & Purity Asm. (C101, C103) |
| S | 4835 150 17098 | Def lection Yoke (C101, C103) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 67128 | Front |
| | 4835 432 67221 | Grille Asm. |

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|---|---|---|
| | 4835 459 17517 | Nameplate |
| | 4835 459 17519 | Overlay |
| | 4835 240 27007 | Speaker 2.25XV (2 used) |
| | 4835 138 17012 | Battery ffTransmitter (AA) |
| | 001B 734 1E001 | Owner's Manual |

**TP2782C101,C102,C103,C104 27"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97579 | Back |
| | 4835 410 37244 | Button Asm. |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67214 | Crystal |
| S | 4835 131 27117 | CRT A68AGN33X (C102) |
| S | 4835 131 27123 | CRT A68AGN32X (C101, C104) |
| S | 4835 131 27134 | CRT A68AGN32XO2 (C103) |
| S | 4835 150 27008 | Convergence & Purity Asm. (C101, C102, C104) |
| S | 4835 150 17098 | Deflection Yoke (C101, C104) |
| S | 4835 150 17113 | Deflection Yoke (C102) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 67126 | Front |
| | 4835 459 17517 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 37022 | Speaker 3" (2 used) |
| | 4835 138 17012 | Battery f/Transmitter (AA) |
| | 001B 720 8E001 | Owner's Manual |

**XS2773C101,C102,C103,C104,C105 27"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97579 | Back |
| | 4835 432 17667 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67214 | Crystal |
| S | 4835 131 27119 | CRT A68KRO88X (C102, C105) |
| S | 4835 131 27123 | CRT A68AGN32X(C101,C104) |
| S | 4835 131 27127 | CRT A68AGN32XO2 (C103) |
| S | 4835 150 27008 | Converg. & Purity Asm. (C101,C102,C104,C105) |
| S | 4835 150 17103 | Deflection Yoke (C102, C105) |
| S | 4B35 150 17098 | Def lection Yoke (C101, C103) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 67132 | Front (C101, C103, C104) |
| | 4835 430 67143 | Front (C102, C105) |
| | 4835 450 67202 | Lens, IR |
| | 4835 459 17517 | Nameplate |
| | 4835 459 17519 | Overlay, Jack Panel |
| | 4835 240 27007 | Speaker 2.25X5" (used) |
| | 4835 138 17001 | Battery f/Transmifter |
| | 001B 722 6F001 | Owner's Manual |

TS3162C101 31"

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97599 | Back |
| | 4835 410 37246 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67211 | Crystal |
| S | 4835 150 27008 | Convergence & Purity |

| | | |
|---|---|---|
| S | 4835 131 27136 | CRT A78LCU30X |
| S | 4835 150 17131 | Deflection Yoke |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97052 | Degaussing Coil |
| | 4835 256 97261 | Degaussing Coil Holder |
| | 4835 430 67119 | Front |
| | 4835 450 67202 | Lens, IR |
| | 4835 459 17517 | Nameplate |
| | 4835 459 17519 | Overlay |
| | 4835 240 27007 | Speaker 2.25X5 (2 used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 737 7E001 | Owner's Manual |

TP317OC101 31"

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97583 | Back |
| | 4835 410 37237 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| S | 4835 150 27008 | Convergence & Purity |
| S | 4835 131 27136 | CRT A78LCU30X |
| S | 4835 150 17131 | Deflection Yoke |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97052 | Degaussing Coil |
| | 4835 256 97261 | Degaussing Coll Holder |
| | 4835 430 67121 | Front |
| | 4835 450 67202 | Lens, IR |
| | 4835 459 17517 | Nameplate |
| | 4835 459 17519 | Overlay, Jack Panel |
| | 4835 459 17526 | Overlay |
| | 4835 240 27007 | Speaker 2.25X5 (2 used) |
| | 4835 138 17047 | Battery f/Transmifter (1.5V) |
| | 001B 737 6E001 | Owner's Manual |

FP3272A101,A102 32"

| | | | |
|---|---|---|---|
| S | 4835 321 17079 | AC Cord | |
| | 4835 432 97583 | Back | |
| | 4835 410 97027 | Buttons | |
| | 4835 256 97264 | Clip, Anode Lead | |
| | 4835 450 67218 | Crystal | |
| S | 4835 131 27106 | CRT A80EFF272X53 | |
| S | 4835 157 97052 | Degaussing Coil | |
| | 4835 256 97265 | Degaussing Coll Holder | |
| | 4835 432 67214 | Front Grille Asm. | |
| | 4835 459 17514 | Nameplate | |
| | 4835 459 17524 | Overlay | |
| | 4835 240 37024 | Speaker 3X5" (2 used) | |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) | 753 |
| | 001B 724 5E001 | Owner's Manual | |

FS3262A101, A103 32"

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97583 | Back |
| | 4835 410 97027 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67218 | Crystal |
| S | 4835 131 27106 | CRT A80EFF272X53 (A101, A103) |
| S | 4835 157 97052 | Degaussing Coll |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 432 67214 | Front Grille Asm. |
| | 4835 459 17514 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 37024 | Speaker 3X5" (2 used) |

| | | |
|---|---|---|
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 722 5E001 | Owner's Manual |

**TS3268C101,C103,C104 31"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97599 | Back |
| | 4835 410 37246 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67211 | Crystal |
| S | 4835 150 27008 | Convergence & Purity (C104) |
| S | 4835 131 27106 | CRT A80EFF272X53 (C101, C103) |
| S | 4835 131 27137 | CRT A80LJF30X (C104) |
| S | 4835 150 17131 | Deflection Yoke (C104) |
| | 4835 535 27006 | Yoke Wedges (3 used) (C104) |
| S | 4835 157 97052 | Degaussing Coil |
| | 4835 256 97261 | Degaussing Coll Holder |
| | 4835 430 67119 | Front |
| | 4835 459 17517 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 27007 | Speaker 2.25X5 (2 used) |
| | 4835 138 17012 | Battery f/Transmitter (AA) |
| | 001B 734 2E001 | Owner's Manual |

XS3272C101, C103 32"

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97599 | Back |
| | 4835 410 97027 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67218 | Crystal |
| S | 4835 131 27106 | CRT A80EFF272X53 (C101, C103) |
| S | 4835 157 97052 | Degaussing Coll |
| S | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 67119 | Front |
| | 4835 450 67200 | Lens, IR |
| | 4835 459 17517 | Nameplate |
| | 4835 459 17519 | Overlay, Jack Panel |
| | 4835 240 27007 | Speaker 2.25X5" (2 used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 721 6E001 | Owner's Manual |
| | 001B 721 6F001 | Owner's Manual |

**TP3287C101, C103 32"**

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97599 | Back |
| | 4835 410 37237 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| S | 4835 131 27106 | CRT A80EFF272X53 (C101, C103) |
| S | 4835 157 97052 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 67121 | Front |
| | 4835 450 67200 | Lens, IR |
| | 4835 459 17517 | Nameplate |
| | 4835 459 17524 | Overlay, Jack Panel |
| | 4835 459 17526 | Overlay, Buttons |
| | 4835 240 27017 | Speaker 2.25X5"(2 used) |
| | 4835 138 17012 | Battery f/Transmitter (AA) |
| | 001B 721 5E001 | Owner's Manual |

TS3272C101,C103 32"

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |

| | | |
|---|---|---|
| | 4835 432 97599 | Back |
| | 4835 410 97027 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67218 | Crystal |
| S | 4835 131 27106 | CRT A80EFF272X53 (C101,C103) |
| S | 4835 157 97052 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 67119 | Front |
| | 4835 450 67200 | Lens, IR |
| | 4835 459 17517 | Nameplate |
| | 4835 459 17519 | Overlay, Jack Panel |
| | 4835 240 27007 | Speaker 2.25X5" (2 used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 722 5E001 | Owner's Manual |

PHILIPS

PA5020C101 20"

| | | |
|---|---|---|
| | 4835 432 97573 | Back |
| | 4835 410 97025 | Buttons |
| S | 4835 131 27121 | CRT AS1JAR70X |
| S | 4835 150 27007 | Convergence & Purity Asm. |
| S | 4835 150 17009 | Deflection Yoke |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97062 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 459 47057 | Speaker Grill (Right) |
| | 4835 459 47058 | Speaker Grill (Left) |
| | 4835 125 97019 | Filter- Cap/Res |
| | 4835 430 37094 | Front |
| | 4835 459 17515 | Nameplate |
| | 4835 240 27025 | Speaker 2x3.5" (2 used) |
| | 001B 730 5E001 | Owner's Manual |

25PS82C101, C102 25"

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97505 | Back |
| | 4835 410 37233 | Button Asm. |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 410 37233 | Crystal |
| S | 4835 131 27091 | CRT A63AFW42X (C101) |
| S | 4835 131 27127 | CRT A63AFW36X (C102) |
| S | 4835 150 27008 | Convergence & Purity Asm. |
| S | 4835 150 17116 | Deflection Yoke |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97077 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 57163 | Front |
| | 4835 459 17521 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 432 17748 | Jack Panel (Plastic) |
| | 4835 240 37002 | Speaker 3" (2 used) |
| | 4835 138 17012 | Battery f/Transmitter (AA) |
| | 001B 732 8E001 | Owner's Manual |
| | 001B 732 8F001 | Owner's Manual |

27T502C101, C102, C103, C104 27"

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97579 | Back |
| | 4835 410 37244 | Button Asm. |
| | 4835 256 97264 | Clip, Anode Lead |

| | | |
|---|---|---|
| | 4835 450 67214 | Crystal |
| S | 4835 131 27117 | CRT A68AGN33X (C102) |
| S | 4835 131 27123 | CRT A68AGN32X (C101, C104) |
| S | 4835 131 27134 | CRT A68AGN32X02 (C103) |
| S | 4835 150 27008 | Convergence & Purity Asm. (C101,C102,C104) |
| S | 4835 150 17098 | Deflection Yoke (C101, C104) |
| S | 4835 150 17113 | Deflection Yoke (C102) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 67126 | Front |
| | 4835 459 17521 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 37022 | Speaker 3" (2 used) |
| | 4835 138 17012 | Battery f/Transmitter (AA) |
| | 001B 722 9E001 | Owner's Manual |

27FP74B101, B102, B103 27"

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97582 | Back |
| | 4835 410 97027 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67218 | Crystal |
| S | 4835 131 27123 | CRT A68AGN32X (B101, B103) |
| S | 4835 131 27134 | CRT A68AGN32XO2 (B102) |
| S | 4835 150 27008 | Convergence & Purity Asm. (B101, B103) |
| S | 4835 150 17098 | Deflection Yoke (B101, B103) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 432 67216 | Front Grille Asm. |
| | 4835 459 17515 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 37024 | Speaker 3X5" (2 used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 733 0E001 | Owner's Manual |
| | 001B 733 0F001 | Owner's Manual |

27PS75C101,C102,C103,C104,C105 27"

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97579 | Back |
| | 4835 432 17667 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67214 | Crystal |
| S | 4835 131 27119 | CRT A68KR088X (C102, C105) |
| S | 4835 131 27123 | CRT A68AGN32X (C101, C104) |
| S | 4835 131 27127 | CRT A68AGN32XO2 (C103) |
| S | 4835 150 27008 | Converg. & Purity Asm.(C101,C102,C104,C105) |
| S | 4835 150 17103 | Deflection Yoke (C102, C105) |
| S | 4835 150 17098 | Deflection Yoke (C101, C104) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 67132 | Front (C101, C103, Cl04) |
| | 4835 430 67143 | Front (C102, C105) |
| | 4835 450 67202 | Lens, IR |
| | 4835 459 17521 | Nameplate |
| | 4835 459 17519 | Overlay |
| | 4835 240 27007 | Speaker 2.25X5" (used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 732 7E001 | Owner's Manual |

| | | |
|---|---|---|
| | 001B 732 7F001 | Owner's Manual |

27PS82C101,C102,C103  27"

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97579 | Back |
| | 4835 410 37244 | Button Asm. |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67214 | Crystal |
| S | 4835 131 27123 | CRT A68AGN32X (C101, C103) |
| S | 4835 131 27134 | CRT A68AGN32XO2 (C102) |
| S | 4835 150 27008 | Converg. & Purity Asm. (C101, C103) |
| S | 4835 150 17098 | Deflection Yoke (C101, C103) |
| | 4835 535 27006 | Yoke Wedges (3 used) C101, C103 |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 67126 | Front |
| | 4835 459 17521 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 37022 | Speaker 2.25X5 (2 used) |
| | 4835 138 17012 | Battery f/Transmitter |
| | 001B 722 9E001 | Owner's Manual |
| | 001B 722 9F001 | Owner's Manual |

LP297IC101,C102,C103 29"

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| S | 4835 272 17003 | AC Adapter |
| S | 4835 015 57126 | AC Adapter Plug |
| | 4835 432 97581 | Back |
| | 4835 410 37245 | Button Asm. |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67209 | Crystal |
| S | 4835 131 27138 | CRT A68AGN82X (C101, C103) |
| S | 4835 131 27135 | CRT A68AGN32X32 (C102) |
| S | 4835 150 27008 | Convergence & Purity Asm. (C101, C103) |
| S | 4835 150 17098 | Deflection Yoke (C101, Cl03) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97065 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4853 430 67145 | Front |
| | 4835 432 67221 | Grille Asm. |
| | 4835 450 67202 | Lens IR |
| | 4835 459 17521 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 27017 | Speaker 2.25X5" (2 used) |
| | 4835 138 17012 | Battery f/Transmitter (AA) |
| | 001B 724 3S001 | Owner's Manual |

LS294OC101, C103      29"

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| S | 4835 272 17003 | AC Adapter |
| | 4835 432 97579 | Back |
| | 4835 410 37244 | Button Asm. |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67214 | Crystal |
| S | 4835 131 27123 | CRT A68AGN32X (C101, C103) |
| S | 4835 150 27008 | Convergence & Purity Asm. (C101, C103) |
| S | 4835 150 17098 | Def lection Yoke (C101, C103) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 67127 | Front |

| | | |
|---|---|---|
| | 4835 459 17521 | Nameplate |
| | 4835 459 17518 | Overlay |
| | 4835 240 37022 | Speaker 3" (2 used) |
| | 4835 138 17001 | Battery f/Transmitter (AAA) |
| | 001B 723 9S001 | Owner's Manual |

LS296IC101,C102,C103 29"

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| S | 4835 272 17003 | AC Adapter |
| S | 4835 015 57126 | AC Plug Adapter |
| | 4835 432 97581 | Back |
| | 4835 410 37245 | Button Asm. |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67209 | Crystal |
| S | 4835 131 27138 | CRT A68AGN82X(C101,C103) |
| S | 4835 131 27135 | CRT A68AGN32X32 (C102) |
| S | 4835 150 27008 | Convergence & Purity Asm. (C101, C103) |
| S | 4835 150 17098 | Def lection Yoke (C101, C103) |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97065 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 430 67144 | Front |
| | 4835 432 67221 | Grille Asm. |
| | 4835 450 67202 | Lens, IR |
| | 4835 459 17521 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 27017 | Speaker 2.25X5" (2 used) |
| | 4835 138 17012 | Battery f/Transmitter (AA) |
| | 001B 724 2S001 | Owner's Manual |

PA5027C101, C102 27"

| | | |
|---|---|---|
| | 4835 432 97579 | Back |
| | 4835 410 37244 | Button Asm. |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67214 | Crystal |
| S | 4835 131 27122 | CRT A68AFZ42X |
| S | 4835 150 27008 | Convergence & Purity Asm. |
| S | 4835 150 17102 | Deflection Yoke |
| | 4835 535 27006 | Yoke Wedges (3 used) |
| S | 4835 157 97058 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 410 37244 | Front |
| | 4835 459 17521 | Nameplate |
| | 4835 240 37023 | Speaker 3" (2 used) |
| | 4835 138 17001 | Battery f/Transmitter (AAA) |
| | 001B 723 8E001 | Owner's Manual |

PA5032C101, C102 32"

| | | |
|---|---|---|
| | 4835 432 97599 | Back |
| | 4835 410 37246 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67211 | Crystal |
| S | 4835 131 27106 | CRT A80EFF272X53 |
| S | 4835 157 97052 | Degaussing Coil |
| | 4835 256 97261 | Degaussing Coil Holder |
| | 4835 430 67119 | Front |
| | 4835 450 67202 | Lens, IR |
| | 4835 459 17521 | Nameplate |
| | 4835 240 27017 | Speaker 2.25X5" (2 used) |
| | 4835 138 17001 | Battery f/Transmitter (AAA) |
| | 001B 723 8E001 | Owner's Manual |

32FP74B101,B102 32"

| | | |
|---|---|---|
| S | 4835 321 17079 | AC Cord |
| | 4835 432 97583 | Back |
| | 4835 410 97027 | Buttons |
| | 4835 256 97264 | Clip, Anode Lead |
| | 4835 450 67218 | Crystal |
| S | 4835 131 27106 | CRT A80EFF272X53 |
| S | 4835 157 97052 | Degaussing Coil |
| | 4835 256 97265 | Degaussing Coil Holder |
| | 4835 432 67214 | Front Grille Asm. |
| | 4835 459 17515 | Nameplate |
| | 4835 459 17524 | Overlay |
| | 4835 240 37024 | Speaker 3X5" (2 used) |
| | 4835 138 17047 | Battery f/Transmitter (1.5V) |
| | 001B 733 0E001 | Owner's Manual |
| | 001B 733 0F001 | Owner's Manual |

**REMOTE TRANSMITTER BATTERY DOORS**

| P/N(Batt Door) | REMOTE |
|---|---|
| 4835 432 37081 | G145DA BA02, G145DB BA02, |
| 4835 432 37081 | H145DB BA02, M145DA BA02, |
| 4835 432 37081 | M145DB BA02 |
| 4835 432 37084 | H175DA BA02, H175DB BA02, |
| 4835 432 37084 | H175DD BA02, M175DA BA02, |
| 4835 432 37084 | M175DB BA02 |
| 4835 432 37085 | T214AG GA03, T225AG MA02 |
| 4835 432 37085 | T225AG PH02 |

# MAIN CHASSIS SCHEMATIC NOTES

**UNLESS OTHERWISE SPECIFIED:**

1. ALL VOLTAGES AND WAVEFORMS WERE TAKEN UNDER THE FOLLOWING CONDITIONS:

   LINE VOLTAGE MAINTAINED AT 120VAC, 60HZ VIA AN ISOLATION TRANSFORMER. CUSTOMER CONTROLS SET AS FOLLOWS:

   CUSTOMER CONTROLS SET TO MIDRANGE

2. VOLTAGES WITHOUT BRACKETS AND ALL WAVEFORMS WERE TAKEN WITH AN NTSC SIGNAL GENERATOR DELIVERING 10mVp-p AT THE ANTENNA TERMINALS.

3. VOLTAGES SHOWN (WITHIN BRACKETS) WERE TAKEN WITH NO SIGNAL APPLIED; THEY ARE LISTED ONLY WHERE AN APPRECIABLE CHANGE WAS NOTED.

4. VOLTAGES SHOWN ENCLOSED WITHIN SQUARES WERE TAKEN WITH THE SET IN STAND-BY MODE (POWER SUPPLIED TO THE CHASSIS, SET TURNED OFF).

5. ALL VOLTAGES ARE POSITIVE DC WITH RESPECT TO GROUND AND VARY DUE TO NORMAL PRODUCTION TOLERANCES.

6. COMPONENT AND SPECIAL SYMBOLS:

INDICATES A COMPONENT WHICH WILL VARY DEPENDING UPON SCREEN SIZE, PRODUCTION DATES AND OPTIONAL FEATURES INSTALLED. PLEASE SEE THE REPLACEMENT PARTS LIST FOR SPECIFIC PART INFORMATION.

7. SPARK GAPS SHOWN ON THE CRT BOARD SCHEMATIC ARE INTERNAL TO THE CRT SOCKET.

THIS WAVEFORM (#9) AT PINS 31 THROUGH 35 ARE PULSE WIDTH MODULATED. THE FREQUENCY WILL VARY DEPENDING UPON CUSTOMER CONTROL SETTINGS.

THESE VOLTAGES WILL VARY SUBSTANTIALLY DEPENDING UPON G2 AND CUTOFF CONTROL SETTINGS (WHICH WILL VARY DEPENDING UPON THE CHARACTERISTICS OF A PARTICULAR PICTURE TUBE). VOLTAGES WILL ALSO VARY DEPENDING UPON CUSTOMER CONTROL SETTINGS. (SEE NOTE 1.)

INDICATES THE NEED FOR A HIGH VOLTAGE SCOPE PROBE (100:1).

11. THE NUMBERS 1 THROUGH 40 (WITH RECTANGLES) CORRESPOND TO THE WAVEFORM PHOTOGRAPHS.

12. FOR VOLTAGE, WATTAGE, AND TOLERANCE RATINGS, RESISTORS AND CAPACITORS SEE THE ELECTRICAL REPLACEMENT PARTS LIST.

. PIN NUMBERS WITHIN CIRCLES ARE USED IN THE R5 CHASSIS.

13. INDICATES A PCEC REPLACEMENT PART NUMBER ONLY.

**WAVEFORM NOTES**

1. ALL WAVEFORM PHOTOS WERE TAKEN UNDER THE CONDITIONS AS STATED IN STEPS I OF THE MAIN CHASSIS SCHEMATIC NOTES.

2. SWEEP TIME/CM SETTINGS ARE SHOWN BELOW PHOTOS IN THE CALIBRATED POSITION. HORIZONTAL POSITIONING OF THE WAVEFORMS WAS ADJUSTED FOR MAXIMUM CLARITY.

3. THE SIGNALS AT PINS 31 THROUGH 35 ARE PULSE WIDTH MODULATED AND WILL VARY IN FREQUENCY DEPENDING UPON CUSTOMER CONTROL SETTINGS.

a. INDICATES THE NEED FOR A HIGH VOLTAGE SCOPE PROBE (100:1).

# Schematic Notes – Jack Panel

1. CAPACITANCE VALUES OF ONE OR MORE ARE PICOFARADS.
2. CAPACITANCE VALUES OF LESS THAN ONE ARE MICROFARADS.
3. FOR VOLTAGE WATTAGE AND TOLERANCE RATINGS OF RESISTORS AND CAPACITORS SEE THE ELECTRICAL REPLACEMENT PARTS LIST.
4. INDICATES AN ISOLATED GROUND.
5. INDICATES A CHASSIS GROUND.

6. COMPONENT AND SPECIAL SYMBOLS:

- ● INDICATES AN SMD 'CHIP' TYPE COMPONENT AND AS SUCH WILL BE LOCATED ON THE BOTTOM SIDE OF THE PRINTED CIRCUIT BOARD.

- ★ INDICATES A COMPONENT WHICH WILL VARY DEPENDING UPON SCREEN SIZE, PRODUCTION DATES AND OPTIONAL FEATURES INSTALLED. PLEASE SEE THE REPLACEMENT PARTS LIST FOR SPECIFIC PART INFORMATION.

7. ⚠ INDICATES A PCEC REPLACEMENT PART NUMBER ONLY.

# R5 CHASSIS FEATURE LIST

| **CHASSIS** | **SCRN. SIZE** | **REM LOC** | **TONE** | **AVL** | **CLOCK** | **PIP** | **SVHS** | **COMB FILTER** | **FEATURE WORD** |
|---|---|---|---|---|---|---|---|---|---|
| EMR507 | 27" | No | No | Yes | No | No | Yes | Yes | 1E |
| EMR512 | 32" | No | No | Yes | No | No | No | Yes | 06 |
| EMR515 | 25" | No | No | Yes | No | No | No | No | 04 |
| EMR525 | 25" | Yes | Yes | Yes | No | Yes | Yes | Yes | 1C |
| EMR532 | 32" | No | No | Yes | No | Yes | No | No | 06 |
| EMR535 | 25" | No | No | Yes | No | Yes | No | No | 0E |
| EMR537 | 27" | No | No | Yes | No | No | No | No | 06 |
| EMR542 | 32" | No | No | Yes | No | No | Yes | Yes | 1E |
| EMR543 | 27" | No | No | Yes | Yes | No | No | No | 20 |
| EMR545 | 25" | No | No | Yes | No | No | No | No | 06 |
| EMR547 | 27" | No | Yes | Yes | No | Yes | Yes | Yes | 1F |
| EMR553 | 27" | Yes | No | Yes | No | No | Yes | Yes | 1A |
| EMR555 | 25" | Yes | No | Yes | No | No | Yes | Yes | 07 |
| EMR557 | 27" | No | No | Yes | No | No | No | No | 23 |
| EMR562 | 32" | Yes | Yes | Yes | No | Yes | Yes | Yes | 1C |
| EMR563 | 27" | Yes | No | Yes | Yes | No | Yes | Yes | 1A |
| EMR573 | 27" | Yes | No | Yes | Yes | Yes | Yes | Yes | 1B |
| EMR577 | 27" | No | No | Yes | No | No | No | Yes | 06 |
| EMR582 | 32" | No | Yes | Yes | Yes | Yes | Yes | Yes | 1F |
| EMR583 | 27" | Yes | No | Yes | Yes | Yes | Yes | Yes | 1B |
| EMR586 | 27" | Yes | Yes | Yes | No | Yes | Yes | Yes | 1C |
| EMR587 | 27" | Yes | Yes | Yes | No | Yes | Yes | Yes | 1C |
| EMR590 | 20" | No | Yes | Yes | Yes | No | Yes | Yes | 00 |
| EMR592 | 32" | No | Yes | Yes | Yes | No | Yes | Yes | 00 |
| EMR597 | 27" | No | Yes | Yes | Yes | No | Yes | Yes | 00 |

# Service Adjustment Notes

**Caution:** The RS Chassis incorporates a **"HOT"** ground system. Always use a separate isolation transformer when applying power to the ex-posed chassis.

**Service Adjustment Notes:**

Unless otherwise specified:

1. All service adjustments are **"HOT"** voltagewise. For maximum safety, ensure the use of properly insulated tools.
2. Refer to the RS Chassis Layout Diagram (Figure 1) for quick location of test points or service adjustment controls.
3. Grid locations (Ex. D-2) next to control reference numbers refer to the Main Chassis Printed Circuit Board Illustrations.

# Focus

1. Tune in a local station and adjust the Focus Control (located on flyback) for best picture details at high light condition.

# RF AGC Delay

1. Tune to a weak station, or loosely couple the antenna to observe a snowy picture.
2. Set the R.F. AGC delay (R206, J-3) to its fully clockwise (CW) position.
3. Slowly turn R206 counterclockwise (CCW) to a point slightly beyond the point of minimum snow.

**NOTE:** Do not turn the control any further as it may result in an overloaded picture on the face of the CRT (caused by a strong station signal).

# IF/AFT Alignment

1. Ensure the set is in the Antenna mode (not Cable) and tune the receiver to a good local air signal.
2. Temporally place a jumper from pin 5 (Coincidence) of IC200 (J-2) to ground.
3. Connect a DC voltmeter (input impedance 10 Megohm or more) to Test Point 900 (AFT, H-2).
4. Adjust L210 (J-2) to 2.5Vdc exactly.
5. Remove the jumper from pin 5 of IC200 to ground.

# Pincushion Adjustment (Models with Diode Modulator AWR006 & AWR007)

1. Apply a crosshatch pattern to the antenna input terminal.
2. Preset controls, R712 (Amp), R714 (Trap) and R728 (Width) to their mechanical center positions.

3. Adjust R712 to straighten the vertical lines on the left and right sides of the picture.

4. Adjust R714 to remove any trapezoid distortion (tilt) from the vertical lines on the left and right sides of the screen.

**NOTE**: An adjustment of register 80 (Horz Center) in the service test mode may need to done to center the raster properly on the screen before preforming step number 5.

5. Adjust R728 to obtain a slight Horizontal overscan on the right and left sides of the screen.

# Convergence and Purity Adjustment

**NOTE:** The Color Purity and Convergence Adjustments described below should be performed only after installation of a new CRT or Deflection Yoke Assembly; otherwise, it will not be necessary to remove the rubber wedges. Minor corrections for purity and convergence can be accomplished through the use of the Purity and Convergence Assembly located on the neck on the CRT.

**Degaussing the receiver**

1 Position the TV receiver so that the screen faces the direction (North, East, South, or West) it will be facing, while in use.

2 Before the set is turned on, thoroughly Degauss the entire receiver.

a. Move a Degaussing Coil in a circular motion slowly around the sides and the front face plate of the receiver.

b. Withdraw the Degaussing Coil at least six feet before disconnecting it from it's power source.

**CONVERGENCE AND PURITY ADJUSTMENT PROCEDURE**

**Pre-Convergence adjustments (Perform Degauss procedure first)**

1 Place the multi-pole Purity and Convergence Assembly with the 2-Y pole Purity Rings directly in the gap between the G2 and G3 (Focus) Grids. (As shown in Figure 2)

2 Connect a Center Cross pattern or a Crosshatch pattern to the antenna terminals.

3 Set the Green Cutoff control R202 (L-3) to its fully clockwise (CW) position.

4 Set the Green Drive control R205 (L-2) to its fully counterclockwise (CCW) position.

5 Loosen the Yoke Clamp screws, pull the Yoke back and remove the three Yoke wedges.

6 Slide the Yoke all the way forward so that it rests against the bell of the CRT.

7 Tighten the Yoke Clamp screw so that the Yoke does not drop away from the bell of the CRT.

8 Slowly spread and, if necessary, rotate the 2-Y pole purity rings so that the red and blue lines are at least parallel and preferably coincide at the 6:00 and 12:00 o'clock position. (Refer to figure 3).

**Color Purity Adjustment**

1 Connect a Solid White Pattern signal to the Antenna terminals.

2 Set the Red Cutoff R201 (L-2) and Blue Cutoff R904 (L-3) controls fully clockwise (CW). Then set the Blue Drive R907 (L-3) control fully counterclockwise (CCW).

3 Set the Green Cutoff control R202 (L-3) fully counterclockwise (CCW) and the Green Drive control R205 (L-2) Fully clockwise (CW).

4 Slowly spread the 2-X Pole purity rings to center the Green portion of the screen leaving the same amount of Red on the left side as there is blue on the right.

5 Loosen the Yoke Clamp screws and slide the Yoke back to the point of best Green Purity.

6 Tighten the Yoke Clamp screw slightly so that the Yoke can still be moved with some friction.

7 Proceed to Static Center Convergence.

**Static center convergence**

1. Connect a Center Cross pattern or a Crosshatch pattern to the Antenna terminals to ensure that the Yoke is not tilted Rotate the Yoke, if necessary, to obtain a level raster.

2 Set the Green Cutoff control R202 (L-3) to it's fully clockwise (CW) position.

3 Set the Green Drive control R205 (L-2) to it's fully counterclockwise (CCW) position.

4 Set the Red Cutoff R201 (L-2) and Blue Cutoff R904 (L-3) controls to their mid-range positions. Then set the Blue Drive R907 (L-3) control fully clockwise (CW).

5 Slowly spread and, if necessary, rotate the 4-Pole Magnetic Rings to converge Red and Blue lines at the center of the screen.

6 Set the Green Drive control R205 (L-2) to it's maximum clockwise (CW) position.

7 Adjust the Green cutoff R202 (L-3) to bring it's Gun back up to approximately the same intensity as the Red and Blue Guns.

8 Slowly spread and, if necessary, rotate the 6-Pole Magnetic Rings to converge Red/Blue on Green lines at the center of the screen.

9 Repeat steps 5 through 8 for optimum performance.

**Dynamic Edge Convergence**

**NOTE:** To secure the correct position of the Deflection Yoke, three rubber wedges are used. They are ultimately to be placed as shown in Figure 4c or 5c.

1. Apply a crosshatch pattern signal to the antenna terminals and set the Green Drive control R205 (L-2) to it's fully counter-clockwise (CCW) position.

2 Set the Green Cutoff Control R202 (L-3) to it's fully clockwise (CW) position.

3 Tilt the Yoke up and down to converge the Red and Blue vertical lines at the 6 and 12 o'clock positions, and the Red and Blue horizontal lines at the 3 and 9 o'clock positions (see Figure 6). When the correct position has been found, place a rubber wedge between the Yoke and the CRT. If the Yoke is tilted UP, place wedge 1 as shown in Figure 4a; if it is tilted DOWN place wedge 1 as shown in Figure 5a.

4 Tilt the Yoke to the left and right to find the point of best possible convergence of the Red and Blue lines at the edges, top and bottom of the screen as seen in Figure 7. When the correct position is located, place wedges 2 and 3 as seen in Figure 4b or 5b.

5 Now, remove wedge 1 and place it in the final position as shown in Figure 4c or 5c.

6 Set the Green Drive Control R205 (L-2) to it's fully clockwise (CW) position.

7 Adjust the Green Cutoff control R202 (L-3) to bring it's Gun back up to approximately the same intensity as the Red and Blue Guns.

8 Proceed to the white balance procedure.

## White Balance

1 Turn the set on.

2 Using the MENU set the color, brightness, picture and sharpness controls to MINIMUM. Select ANTENNA INPUT and disconnect the antenna.

3 Set Sub-Bright Control R390 (E-3) to minimum (Fully clockwise)

4 Set G2 to minimum.

5 Set Green and Blue Drive Controls to mid-range. Red Drive is fixed at mid-range.

6 Set all three Cutoff controls fully clockwise.

7 Turn set off with Remote Transmitter. (Do not unplug Set.)

8 Disconnect vertical yoke plug (P550).

9 Turn set ON.

10 Adjust G2 Clockwise until a line just becomes visible. This line will be the color of the dominant gun.

11 Adjust the other two cutoff controls to achieve a low level white line.

12 Reduce G2 slightly until the line barely disappears.

13 Turn the set off with the Remote transmitter.

14 Reconnect yoke plug.

15 Turn set ON.

16 Adjust sub-bright Control (CCW) until raster just becomes visible.

17 If necessary, adjust Green and Blue Drive controls to achieve white Raster.

18 Adjust Sub-bright (CW) until raster barely disappears.

19 Set Bright, Picture and Color to mid-range with Remote Transmitter.

## Stereo Alignment (For Stereo Models Only)

**Note:** The following procedure was performed with a Sencore VG91 Universal Video Generator and must be done while the set is in the service mode.

1. Enter the Service Mode by pressing **06-25-96-MENU** on the remote control, scan to channel 3. Do not mute sound during the following adjustment. Refer to Service Test Mode for further entry information.

**Input Level Adjustment**

1. Set VG91 as follows: STID TV Channel 3, RF-IF Range set to HI, RF-IF Level set to NORMAL (1), Video Pattern = Raster, R-G-B raster controls OFF, Mode Switch set to L+R, Audio Frequency set to 30OHz., and 0 Pilot (max. CCW).

2. Connect RF output to Television antenna input, adjust VG91 level to remove snow from raster.

3. Enter 81 with the remote for Input Level.

4. Adjust Input Level to 1.4Vp-p on oscilloscope at Test Point 52 (B-1) (Pin 10 of IC200) using the +/- controls on the remote.

**Wide Band Adjustment**

1. Make the following changes to the VG91: Mode Switch set to L Ch., Stereo Pilot set for 1 00% NORM.

2. Enter 83 with remote for Wide Band/Spectrum adjustments.

3. Adjust Wide Band for Null on scope at Test Point 53 (B-1) (Pin 33 IC200) using +/- buttons on remote.

**Spectrum**

1. Make the following change to the VG91: Audio Frequency set to 3kHz.

2. Adjust Spectrum for Null on scope at Test Point 53 (B-1) (Pin 33 IC200) using menu Up/Down buttons on remote.

3. Repeat Wide Band & Spectrum Adjustments again.
   Note: DO NOT enter 82. This is a factory stereo alignment, if register 82 is adjusted a full stereo alignment is required.

# Test Mode Entry

1. The service mode in the chassis will reflect the customer settings for such items as: Stereo (On/Off), Cable (Yes/No), and other similar functions. To achieve the functions desired/not desired, make the selections before entering the service mode. For example, when performing a Stereo alignment, turn the Stereo ON bdfore entering the service mode to perform alignment. Press the following transmitter keys without allowing the on-screen display to time out between entries.

   **NOTE:** The transmitter supplied with the set may not perform this task properly, if the word "MENU" appears on screen at the end of following sequence, a UR14,T251 or other similar transmitter with channel and volume separate from the menu keys on it must be acquired.

   **0-6-2-5-9-6-MENU**

2. The following is an example of what will be displayed on the screen and an explanation of the characters.

   GR513 613165-1 E

   03 FEATURE 05

**Top Line**

GR5B = the Chassis Family

613165-1 = Software Version installed

E = Error codes will be displayed here if a communication error exists (EX.A = tuner error).

**Error Codes:**
A = Tuner
B = Memory
C = Remote Locator
D = Automatic Volume Limiter (Smart SoundD)*
E = PIP
* = "D" indicates AVL in the signal processor of Mono Chassis only. In Stereo Chassis, a "D" does not indicate failure as AVL is in the Stereo IC.

**Bottom Line**

03 = Current channel

FEATURE = Indicates current register (SEE CHASSIS FEATURE CHART)

05 = Current register value in Hexadecimal format.

By pressing the STATUS/EXIT button on the transmitter the run timer will be displayed in the upper left corner, also in Hexadecimal.

To select another register, press the menu bottom on the transmitter until the desired register is displayed, or each register may be accessed directly by entering the register number.The following is a list of "Default" values (Default meaning values loaded at the factory).

| **Num** | **Reg** | **Default Value** |
|---|---|---|
| 90 | Feature | See Chassis Feature Chart |
| 91 | Bright | 1F |
| 92 | Picture | 1F |
| 93 | Color | 1F |
| 94 | Tint | 1F |
| 95 | Sharp | 1F |
| 96 | OSD | 25 |
| 97 | PIP Color | 22 |
| 98 | PIP Tint | 1F |
| 99 | Vol Inc | 08 |
| 80 | Horz Cntr | 1F |
| 81 | Input Level | 07 |
| 83 | W-Band/Spect | 10 10 |
| 84 | Calibration | 00 |
| 85 | Bass | 1F |
| 86 | Treble | 1F |
| 87 | Balance | 1F |
| * | WPS/RPS | 02 02 * (Press Size Button) |
| ** | PIP X,Y | ** (Press PIP ON/OFF or POS buttons to activate, ^ v or < > to change X & Y coordinates of the PIP picture) |
| *** | Vert Hi | Press sleep button on remote. Use ^ & v keys to change over or underscan. |

**Note: DO NOT** enter **82**. This is a factory stereo alignment, if register 82 is adjusted a full stereo alignment is required.

**Smart Picture© Register Values:**

1. While still in the Service Mode Press the "Smart Picture©" button.

2. Press the "Menu" button to step through the following registers:

| **SP** | **MV** | **WS** | **GM SIGNAL** | **SPORTS GAMES** | **MOVIES** | **WEAK VIDEO** | |
|---|---|---|---|---|---|---|---|
| Picture | | 32 | 1F | | 12 | 17 | Color |
| | | 24 | 1F | | 12 | 1E | |
| Sharpness | | 2B | 1F | | 0C | 1D | |

**Note:** These are factory values, other values may be used as needed.

To exit the Service Mode depress the Power button on the Television set, the words "Resetting Memory" will appear at the top of the screen momentarily before the set shuts off.

# On Screen Display Oscillator Adjustment

1. Tune to an air or cable signal.

2. With a voltmeter (10 Megohm input impedance or greater) check and record the voltage at the +5V test point, TP32 (D-2).

3. Move the meter probe to OSD test point, TP33 (E-2).

4. Adjust L325 (E-2) to achieve a voltage at TP33 that is equal to one half of the voltage recorded at TP32 (approximately 2.5Vdc). This voltage must be set within the following tolerances: -10% to +2% of half of the voltage recorded at TP32.

# Remote Locator RF Xmtr Out Adjustment

1. Short L301 (B-4) to Ground (the end closest to IC2 (A-4)). This turns the Remote Locator on.

2. Short Antenna Al to ground.

3. Connect a 5OMHz. Oscilloscope to L6 (B-5), connect to the end closest to IC2.

4. Use a 100:1 scope probe or a probe with a very high input impedance to avoid loading the signal.

5. Adjust L9 (B-4) to achieve the maximum signal level on the oscilloscope (if a 100:1 probe is used be sure to set the scope to read a very low voltage).

# Clock Calibration

**Note.-** Clock models are shipped from the factory with a default value of 00 or 80 for NO correction. When setting the correction avoid 00, 64 or 80 when a -1 microprocessor is being used If correction is necessary use the following procedure:

1. Minutes of error per month X2 = Seconds of error per day

2. Determine if the clock is gaining or losing time

3. Enter the Service Mode and access register 84 via the numeric keypad on the remote transmitter. If the value is 00 or 80 refer to the use table for the number of seconds of correction needed, fast or slow, and enter the calibration code (hex).

**EXAMPLE:**

4 minutes fast a month X 2 = 8 seconds a day fast. The chart says if the clock is 8 seconds a day fast without correction use 59. Change register 84 from 00 or 80 to 59. If there is a calibration code in register 84 other than 00 or 80 see the following examples:

**COMPLEX EXAMPLE #1:**

Using the error from the previous example, 8 seconds fast a day, go to register 84 and see that it has a value of 16 already in it. Look up 16 on the table and find that there is already a correction for 2 seconds fast a day. 8 seconds faster is needed (2 + 8 = 10) or a total of 10 seconds fast correction which is 6E. Enter 6E in register 84.

**COMPLEX EXAMPLE #2:**

If the clock is 8 seconds fast a day and 96 is already in register 84, a 2 second a day correction in the wrong direction (slow) is present. The code for 6 seconds fast should be loaded (43 from chart), this adds up to 8 seconds fast correction.

**<u>IF CLOCK IS FAST:</u>**

| Freq.,Hz. [-Comp.] | Cal. (Hex) | (sec./day) |
|---|---|---|

| | | |
|---|---|---|
| 2403.84615 | 00 | 0.00 |
| 2403.84866 | 01 | 0.09 |
| 2403.85116 | 02 | 0.18 |
| 2403.85367 | 03 | 0.27 |
| 2403.85617 | 04 | 0.36 |
| 2403.85867 | 05 | 0.45 |
| 2403.86118 | 06 | 0.54 |
| 2403.86368 | 07 | 0.63 |
| 2403.86619 | 08 | 0.72 |
| 2403.86869 | 09 | 0.81 |
| 2403.87119 | 0A | 0.90 |
| 2403.87370 | 0B | 0.99 |
| 2403.87620 | 0C | 1.08 |
| 2403.87871 | 0D | 1.17 |
| 2403.88121 | 0E | 1.26 |
| 2403.88371 | 0F | 1.35 |
| 2403.88622 | 10 | 1.44 |
| 2403.88872 | 11 | 1.53 |
| 2403.89123 | 12 | 1.62 |
| 2403.89373 | 13 | 1.71 |
| 2403.89623 | 14 | 1.80 |
| 2403.89874 | 15 | 1.89 |
| 2403.90124 | 16 | 1.98 |
| 2403.90375 | 17 | 2.07 |
| 2403.90625 | 18 | 2.16 |
| 2403.90875 | 19 | 2.25 |
| 2403.91126 | 1A | 2.34 |
| 2403.91376 | 1B | 2.43 |
| 2403.91627 | 1C | 2.52 |
| 2403.91877 | 1D | 2.61 |
| 2403.92127 | 1E | 2.70 |
| 2403.92378 | 1F | 2.79 |
| 2403.92628 | 20 | 2.88 |
| 2403.92879 | 21 | 2.97 |
| 2403.93129 | 22 | 3.06 |
| 2403.93379 | 23 | 3.15 |
| 2403.93630 | 24 | 3.24 |
| 2403.93880 | 25 | 3.33 |
| 2403-94131 | 26 | 3.42 |
| 2403.94381 | 27 | 3.51 |
| 2403.94631 | 28 | 3.60 |
| 2403.94882 | 29 | 3.69 |
| 2403.95132 | 2A | 3.78 |
| 2403.95383 | 2B | 3.87 |
| 2403.95633 | 2C | 3.96 |
| 2403.95883 | 2D | 4.05 |
| 2403.96134 | 2E | 4.14 |
| 2403.96384 | 2F | 4.23 |
| 2403.96635 | 30 | 4.32 |
| 2403.96885 | 31 | 4.41 |
| 2403.97135 | 32 | 4.50 |
| 2403.97386 | 33 | 4.59 |
| 2403.97636 | 34 | 4.68 |
| 2403.97887 | 35 | 4.77 |
| 2403.98137 | 36 | 4.86 |
| 2403.98387 | 37 | 4.95 |
| 2403.98638 | 38 | 5.04 |
| 2403.98888 | 39 | 5.13 |

| | | |
|---|---|---|
| 2403.99139 | 3A | 5.22 |
| 2403.99389 | 3B | 5.31 |
| 2403.99639 | 3C | 5.40 |
| 2403.99890 | 3D | 5.49 |
| 2404.00140 | 3E | 5.58 |
| 2404.00391 | 3F | 5.67 |
| 2404.00641 | 40 | 5.76 |
| 2404.00891 | 41 | 5.85 |
| 2404.01142 | 42 | 5.94 |
| 2404.01392 | 43 | 6.03 |
| 2404.01643 | 44 | 6.12 |
| 2404.01893 | 45 | 6.21 |
| 2404.02143 | 46 | 6.30 |
| 2404.02394 | 47 | 6.39 |
| 2404.02644 | 48 | 6.48 |
| 2404.02895 | 49 | 6.57 |
| 2404.03145 | 4A | 6.66 |
| 2404.03395 | 4B | 6.75 |
| 2404.03646 | 4C | 6.84 |
| 2404.03896 | 4D | 6.93 |
| 2404.04147 | 4E | 7.02 |
| 2404.04397 | 4F | 7.11 |
| 2404.04647 | 50 | 7.20 |
| 2404.04898 | 51 | 7.29 |
| 2404.05148 | 52 | 7.38 |
| 2404.05399 | 53 | 7.47 |
| 2404.05649 | 54 | 7.56 |
| 2404.05899 | 55 | 7.65 |
| 2404.06150 | 56 | 7.74 |
| 2404.06400 | 57 | 7.83 |
| 2404.06651 | 58 | 7.92 |
| 2404.06901 | 59 | 8.01 |
| 2404.07151 | 5A | 8.10 |
| 2404.07402 | 5B | 8.19 |
| 2404.07652 | 5C | 8.28 |
| 2404.07903 | 5D | 8.37 |
| 2404.08153 | 5E | 8.46 |
| 2404.08403 | 5F | 8.55 |
| 2404.08654 | 60 | 8.64 |
| 2404.08904 | 61 | 8.73 |
| 2404.09155 | 62 | 8.82 |
| 2404.09405 | 63 | 8.91 |
| 2404.09655 | 64 | 9.09 |
| 2404.09906 | 65 | 9.18 |
| 2404.10156 | 66 | 9.27 |
| 2404.10407 | 67 | 9.36 |
| 2404.10657 | 68 | 9.45 |
| 2404.10907 | 69 | 9.54 |
| 2404.11158 | 6A | 9.63 |
| 2404.11408 | 6B | 9.72 |
| 2404.11659 | 6C | 9.81 |
| 2404.11909 | 6D | 9.90 |
| 2404.12159 | 6E | 9.99 |
| 2404.12410 | 6F | 10.08 |
| 2404.12660 | 70 | 10.17 |
| 2404.12911 | 71 | 10.26 |
| 2404.13161 | 72 | 10.35 |
| 2404.13411 | 73 | 10.44 |

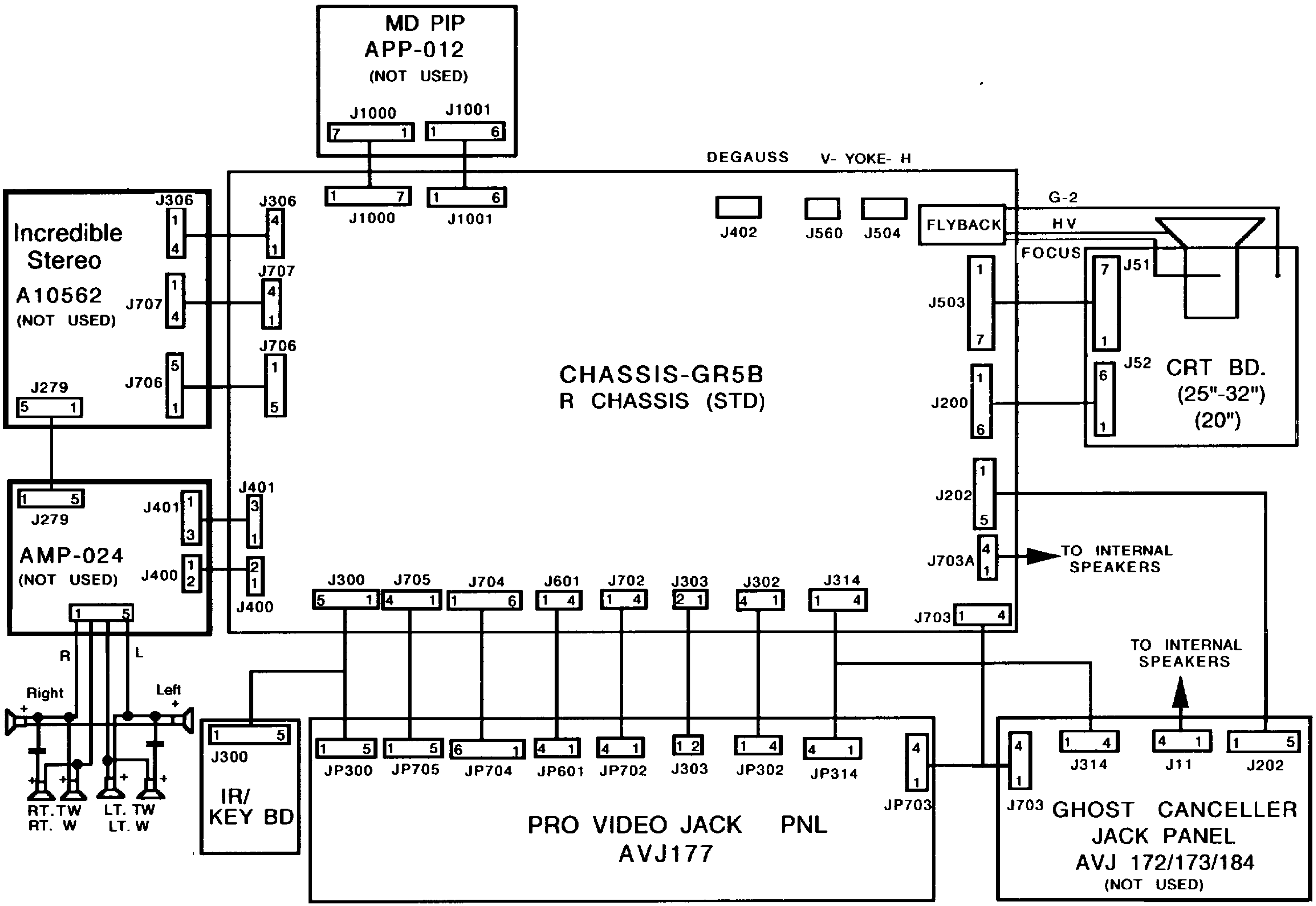
| | | |
|---|---|---|
| 2404.13662 | 74 | 10.53 |
| 2404.13912 | 75 | 10.62 |
| 2404.14163 | 76 | 10.71 |
| 2404.14413 | 77 | 10.80 |
| 2404.14663 | 78 | 10.89 |
| 2404.14914 | 79 | 10.98 |
| 2404.15164 | 7A | 11.07 |
| 2404.15415 | 7B | 11.16 |
| 2404.15665 | 7C | 11.25 |
| 2404.15915 | 7D | 11.34 |
| 2404.16166 | 7E | 11.43 |
| 2404.16416 | 7F | 11.52 |

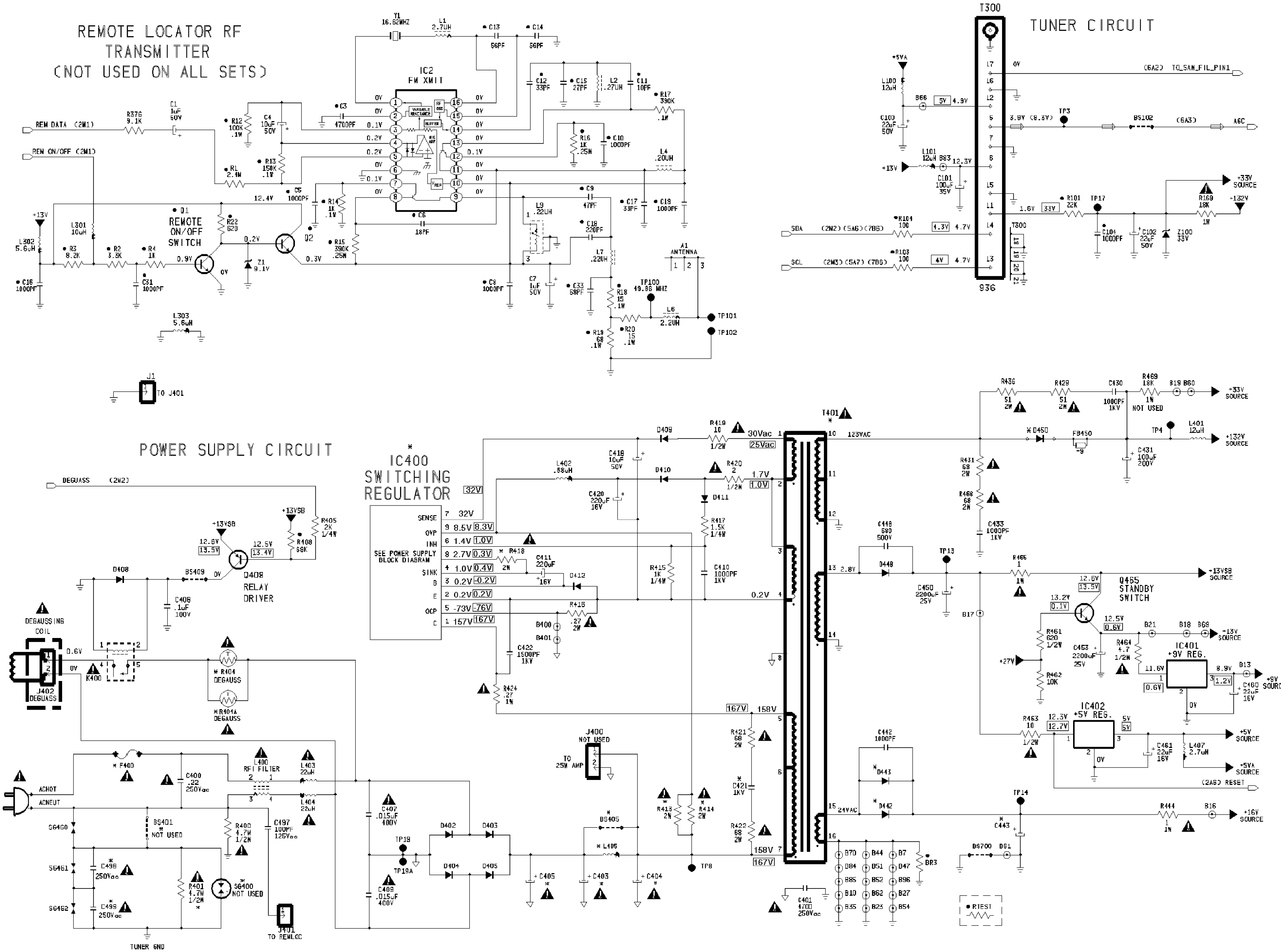
**IF CLOCK IS SLOW**

| **Freq.,Hz.** | **Byte** | |
|---|---|---|
| **[+ Comp.]** | **(Hex)** | **(sec./day)** |
| 2403.84615 | 80 | 0.00 |
| 2403.84365 | 81 | 0.09 |
| 2403.84115 | 82 | 0.18 |
| 2403.83864 | 83 | 0.27 |
| 2403.83614 | 84 | 0.36 |
| 2403.83363 | 85 | 0.45 |
| 2403.83113 | 86 | 0.54 |
| 2403.82863 | 87 | 0.63 |
| 2403.82612 | 88 | 0.72 |
| 2403.82362 | 89 | 0.81 |
| 2403.82111 | 8A | 0.90 |
| 2403.81861 | 8B | 0.99 |
| 2403.81611 | 8C | 1.08 |
| 2403.81360 | 8D | 1.17 |
| 2403.81110 | 8E | 1.26 |
| 2403.80859 | 8F | 1.35 |
| 2403.80609 | 90 | 1.44 |
| 2403.80359 | 91 | 1.53 |
| 2403.80108 | 92 | 1.62 |
| 2403.79858 | 93 | 1.71 |
| 2403.79607 | 94 | 1.80 |
| 2403.79357 | 95 | 1.89 |
| 2403.79107 | 96 | 1.98 |
| 2403.78856 | 97 | 2.07 |
| 2403.78606 | 98 | 2.16 |
| 2403.78355 | 99 | 2.25 |
| 2403.78105 | 9A | 2.34 |
| 2403.77855 | 9B | 2.43 |
| 2403.77604 | 9C | 2.52 |
| 2403.77354 | 9D | 2.61 |
| 2403.77103 | 9E | 2.70 |
| 2403.76853 | 9F | 2.79 |
| 2403.76603 | A0 | 2.88 |
| 2403.76352 | AI | 2.97 |
| 2403.76102 | A2 | 3.06 |
| 2403.75851 | A3 | 3.15 |
| 2403.75601 | A4 | 3.24 |
| 2403.75351 | A5 | 3.33 |
| 2403.75100 | A6 | 3.42 |

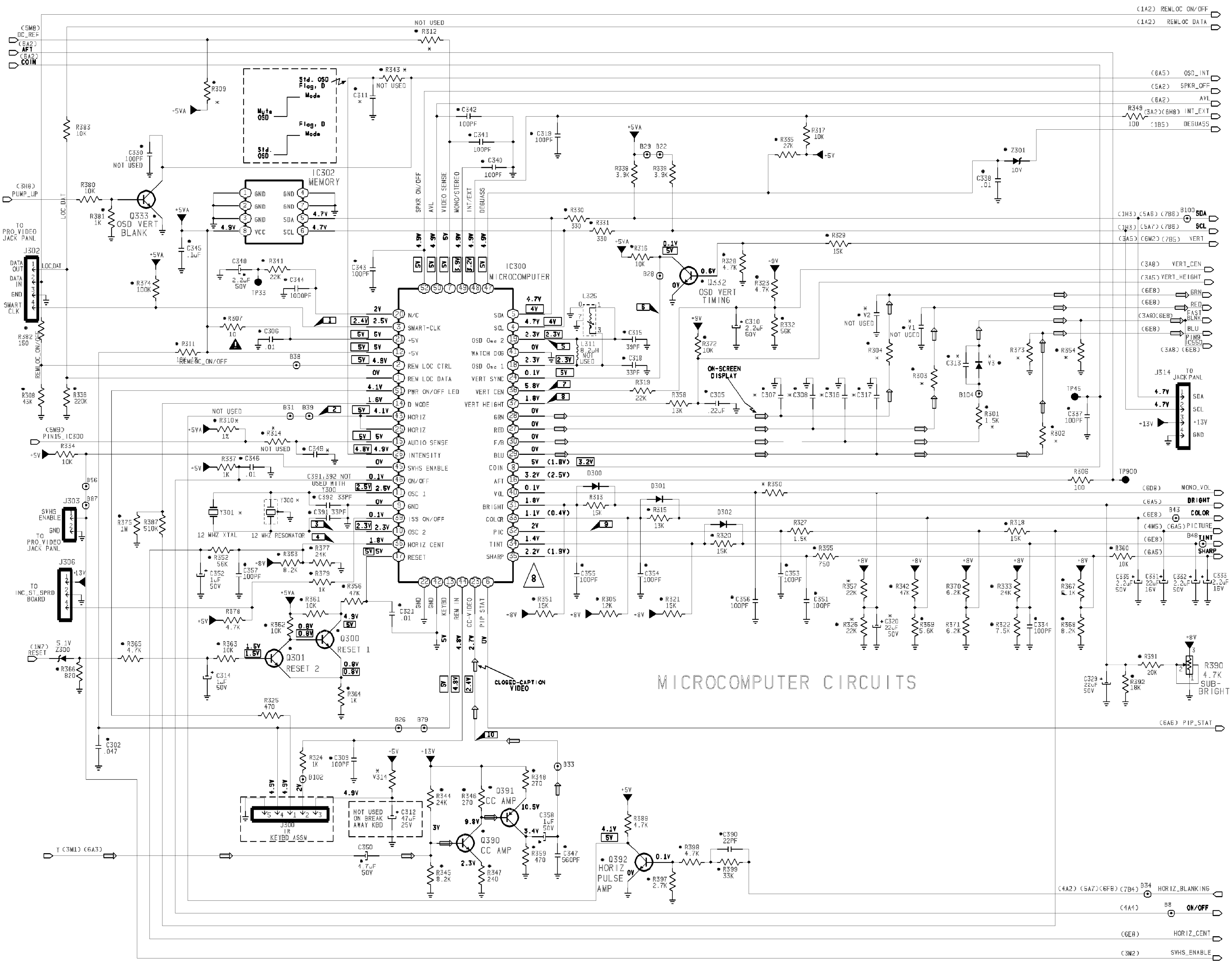
| | | |
|---|---|---|
| 2403.74850 | A7 | 3.51 |
| 2403.74599 | A8 | 3.60 |
| 2403.74349 | A9 | 3.69 |
| 2403.74099 | AA | 3.78 |
| 2403.73848 | AB | 3.87 |
| 2403.73598 | AC | 3.96 |
| 2403.73347 | AD | 4.05 |
| 2403.73097 | AE | 4.14 |
| 2403.72847 | AF | 4.23 |
| 2403.72596 | B0 | 4.32 |
| 2403.72346 | BI | 4.41 |
| 2403.72095 | B2 | 4.50 |
| 2403.71845 | B3 | 4.59 |
| 2403.71595 | B4 | 4.68 |
| 2403.71344 | B5 | 4.77 |
| 2403.71094 | B6 | 4.86 |
| 2403.70843 | B7 | 4.95 |
| 2403.70593 | B8 | 5.04 |
| 2403.70343 | B9 | 5.13 |
| 2403.70092 | BA | 5.99 |
| 2403.69842 | BB | 5.31 |
| 2403.69591 | BC | 5.40 |
| 2403.69341 | BD | 5.49 |
| 2403.69091 | BE | 5.58 |
| 2403.68840 | BF | 5.67 |
| 2403.68590 | C0 | 5.76 |
| 2403.68339 | CI | 5.85 |
| 2403.68089 | C2 | 5.94 |
| 2403.67839 | C3 | 6.03 |
| 2403.67588 | C4 | 6.12 |
| 2403.67338 | C5 | 6.21 |
| 2403.67087 | C6 | 6.30 |
| 2403.66837 | C7 | 6.39 |
| 2403.66587 | C8 | 6.48 |
| 2403.66336 | C9 | 6.57 |
| 2403.66086 | CA | 6.66 |
| 2403.65835 | CB | 6.75 |
| 2403.65585 | CC | 6.84 |
| 2403.65335 | CD | 6.93 |
| 2403.65084 | CE | 7.02 |
| 2403.64834 | CF | 7.11 |
| 2403.64583 | D0 | 7.20 |
| 2403.64333 | DI | 7.29 |
| 2403.64083 | D2 | 7.38 |
| 2403.63832 | D3 | 7.47 |
| 2403.63582 | D4 | 7.56 |
| 2403.63331 | D5 | 7.65 |
| 2403.63081 | D6 | 7.74 |
| 2403.62831 | D7 | 7.83 |
| 2403.62580 | D8 | 7.92 |
| 2403.62330 | D9 | 8.01 |
| 2403.62079 | DA | 8.10 |
| 2403.61829 | DB | 8.19 |
| 2403.61579 | DC | 8.28 |
| 2403.61328 | DD | 8.37 |
| 2403.61078 | DE | 8.46 |
| 2403.60827 | DF | 8.55 |
| 2403.60577 | E0 | 8.64 |

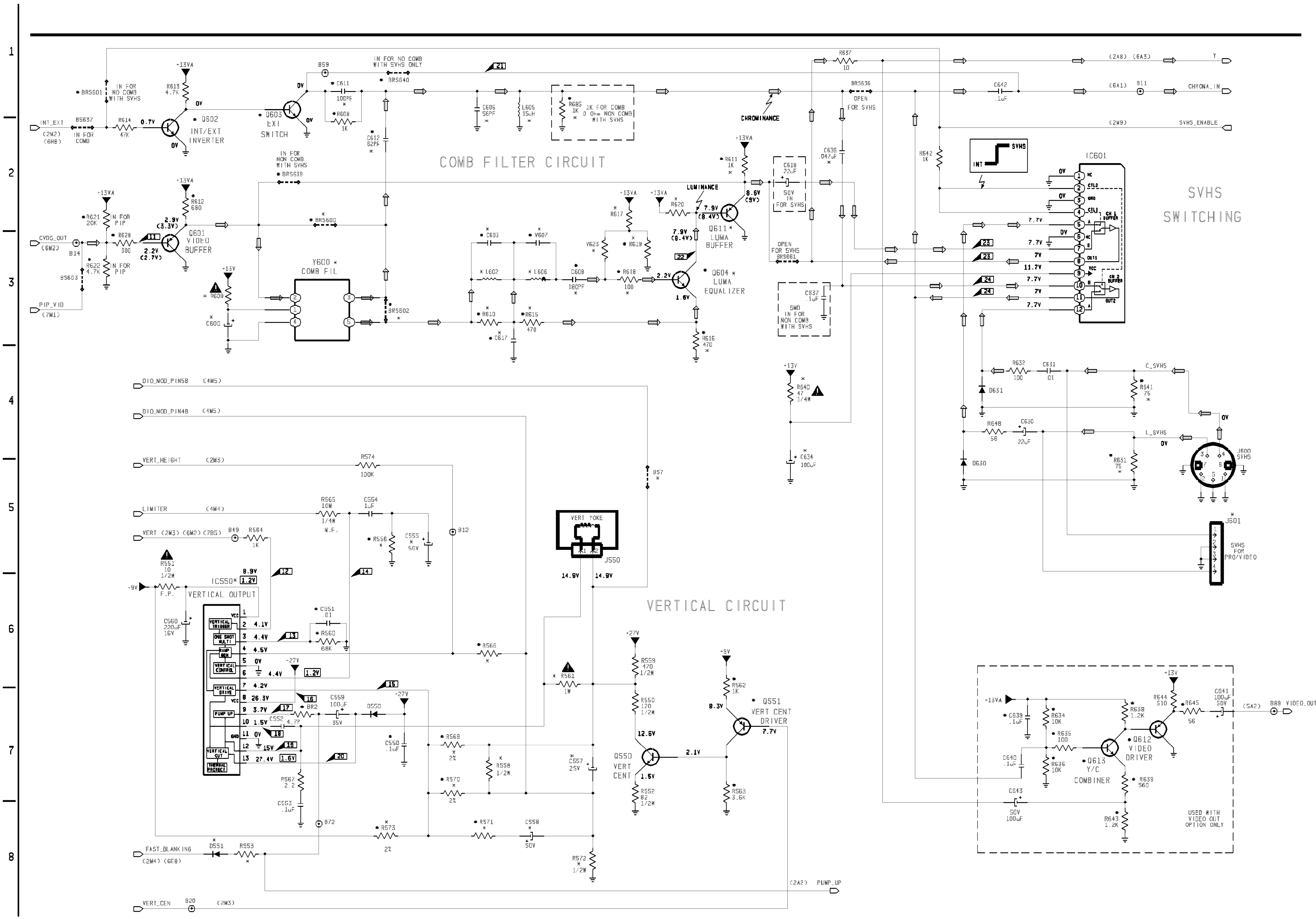
| | | |
|---|---|---|
| 2403.60327 | EI | 8.73 |
| 2403.60076 | E2 | 8.82 |
| 2403.59826 | E3 | 8.91 |
| 2403.59575 | E4 | 9.09 |
| 2403.59325 | E5 | 9.18 |
| 2403.59075 | E6 | 9.27 |
| 2403.58824 | E7 | 9.36 |
| 2403.58574 | E8 | 9.45 |
| 2403.58323 | E9 | 9.54 |
| 2403.58073 | EA | 9.63 |
| 2403.57823 | EB | 9.72 |
| 2403.57572 | EC | 9.81 |
| 2403.57322 | ED | 9.90 |
| 2403.57071 | EE | 9.99 |
| 2403.56821 | EF | 10.08 |
| 2403.56571 | F0 | 10.17 |
| 2403.56320 | FI | 10.26 |
| 2403.56070 | F2 | 10.35 |
| 2403.55819 | F3 | 10.44 |
| 2403.55569 | F4 | 10.53 |
| 2403.55319 | F5 | 10.62 |
| 2403.55068 | F6 | 10.71 |
| 2403.54818 | F7 | 10.80 |
| 2403.54567 | F8 | 10.89 |
| 2403.54317 | F9 | 10.98 |
| 2403.54067 | FA | 11.07 |
| 2403.53816 | FB | 11.16 |
| 2403.53566 | FC | 11.25 |
| 2403.53315 | FD | 11.34 |
| 2403.53065 | FE | 11.43 |
| 2403.52815 | FF | 11.52 |

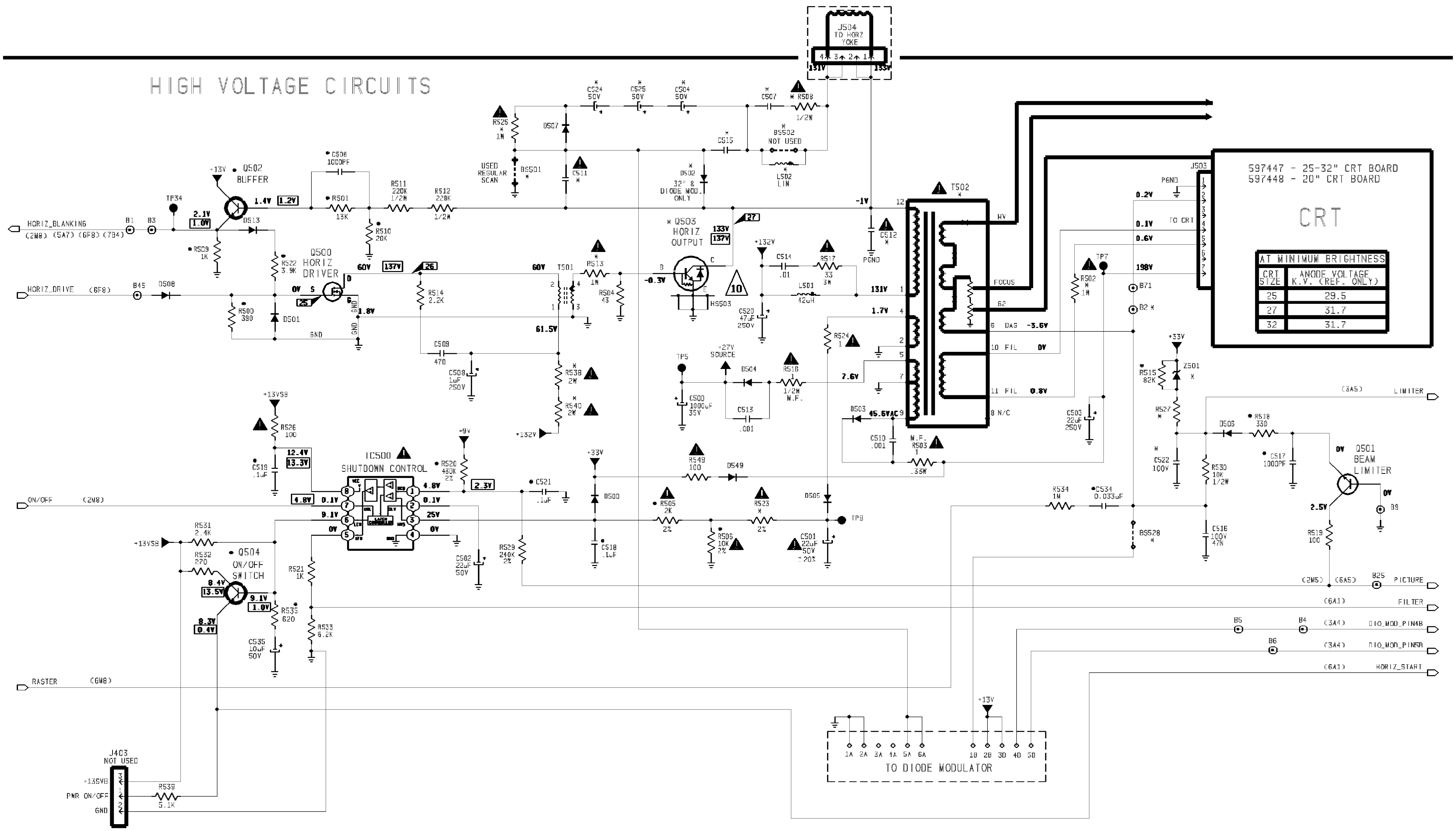

MD PIP
APP-012
(NOT USED)
J1000
J1001
DEGAUSS
V- YOKE- H
J402
J560
J504
FLYBACK
G-2
HV
FOCUS
Incredible Stereo
A10562
(NOT USED)
J306
J707
J706
J279
J503
J51
J52
J200
CRT BD.
(25"-32")
(20")
CHASSIS-GR5B
R CHASSIS (STD)
J202
J703A
TO INTERNAL SPEAKERS
AMP-024
(NOT USED)
J401
J400
J300
J705
J704
J601
J702
J303
J302
J314
J703
R
L
Right
Left
RT.TW
RT. W
LT. TW
LT. W
IR/
KEY BD
JP300
JP705
JP704
JP601
JP702
JP302
JP314
JP703
PRO VIDEO JACK PNL
AVJ177
J11
GHOST CANCELLER
JACK PANEL
AVJ 172/173/184
(NOT USED)


REMOTE LOCATOR RF
TRANSMITTER
(NOT USED ON ALL SETS)
IC2
FM XMIT
REMOTE
ON/OFF
SWITCH
A1
ANTENNA
T300
TUNER CIRCUIT
POWER SUPPLY CIRCUIT
IC400
SWITCHING
REGULATOR
SEE POWER SUPPLY
BLOCK DIAGRAM
Q408
RELAY
DRIVER
DEGAUSSING
COIL
J402
DEGAUSS
L400
RFI FILTER
TUNER GND
J401
TO REMLOC
J400
NOT USED
T401
Q465
STANDBY
SWITCH
IC401
+9V REG.
IC402
+5V REG.
+33V SOURCE
+132V SOURCE
+13VSB SOURCE
+13V SOURCE
+9V SOURCE
+5V SOURCE
+5VA SOURCE
+16V SOURCE

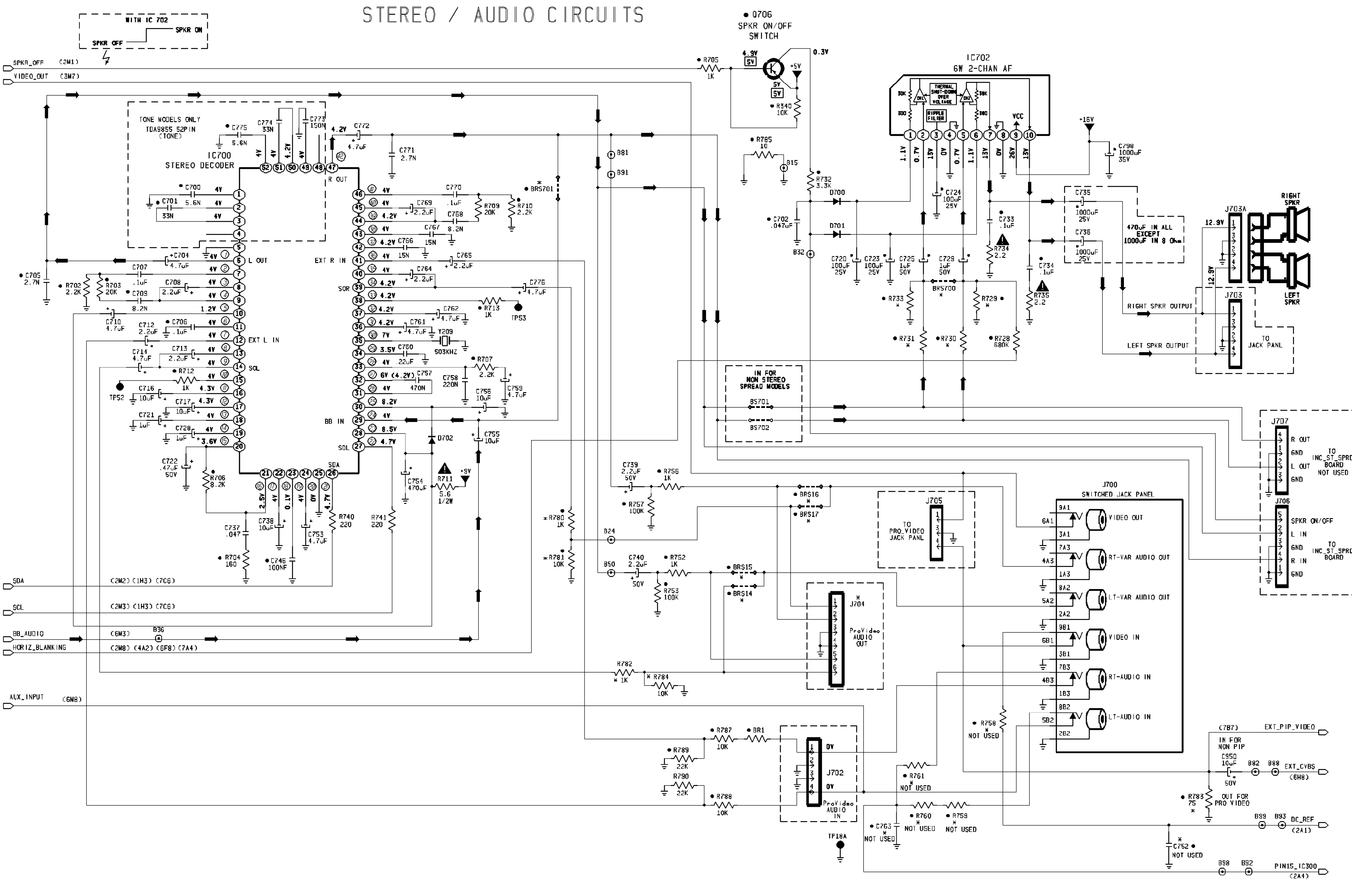
# All Models (7538) - MAIN CHASSIS SECTION 2

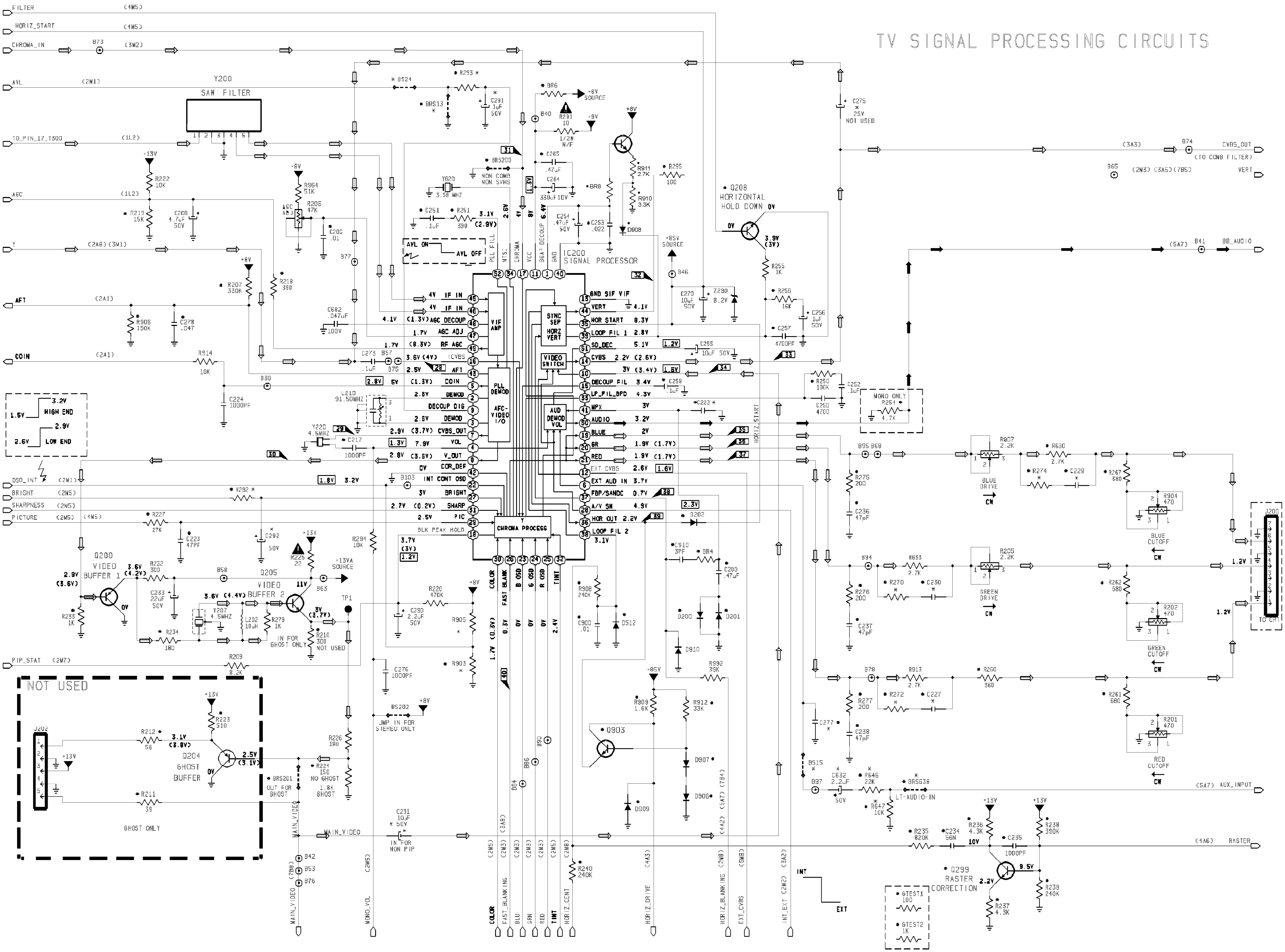


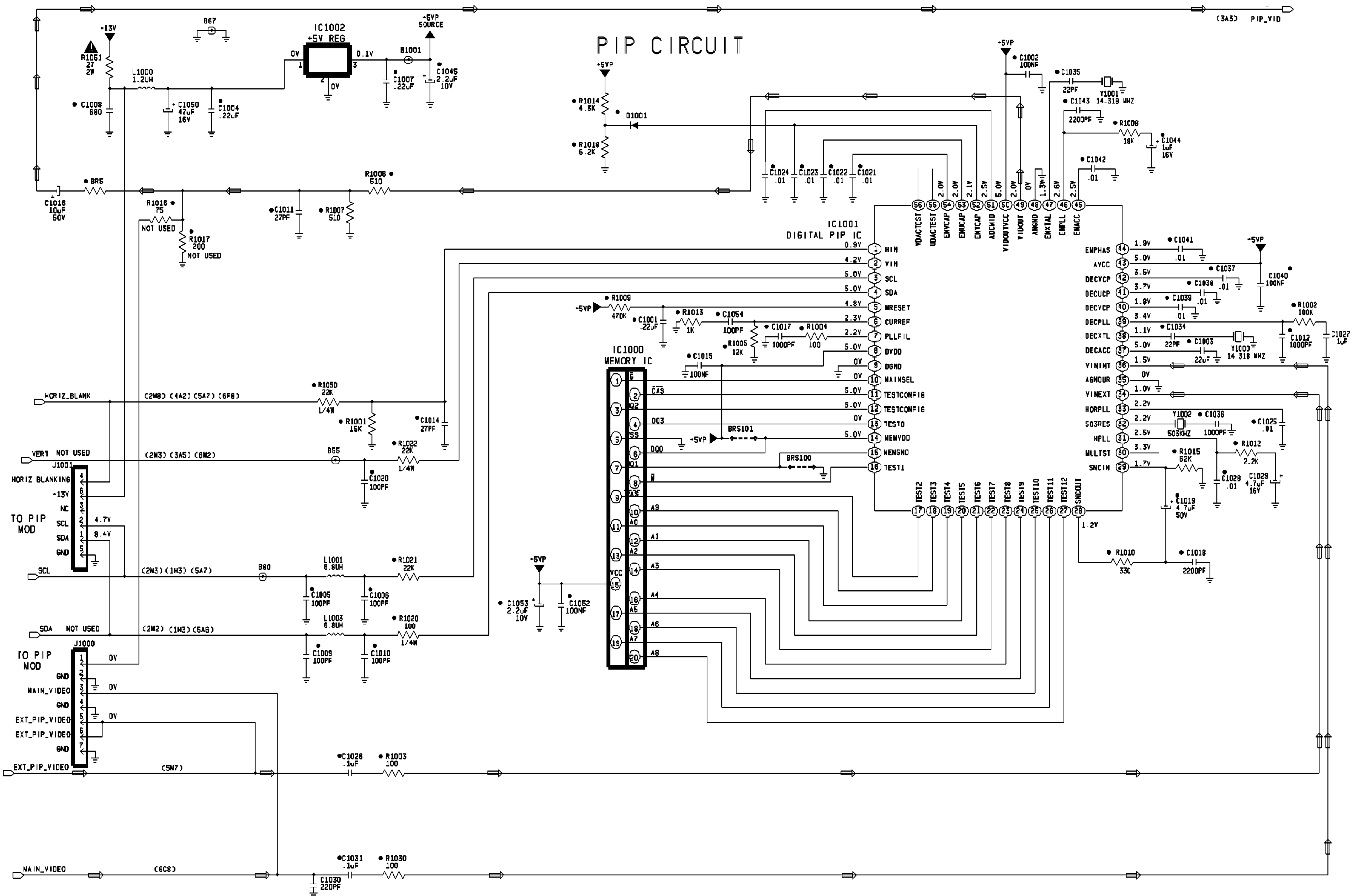

COMB FILTER CIRCUIT
SVHS SWITCHING
VERTICAL CIRCUIT
IC601
IC550
VERTICAL OUTPUT
Y600
COMB FIL
VERT YOKE
J550
J600 SVHS
J601
Q601 VIDEO BUFFER
Q602 INT/EXT INVERTER
Q603 EXT SWITCH
Q604 LUMA EQUALIZER
Q611 LUMA BUFFER
Q612 VIDEO DRIVER
Q613 Y/C COMBINER
Q550 VERT CENT
Q551 VERT CENT DRIVER
INT_EXT
CVDG_OUT
PIP_VID
DIO_NOD_PIN5B
DIO_NOD_PIN4B
VERT_HEIGHT
LIMITER
FAST_BLANKING
VERT_CEN
PUMP_UP
CHRONA_IN
SVHS_ENABLE
VIDEO_OUT
CHROMINANCE
LUMINANCE
USED WITH VIDEO OUT OPTION ONLY

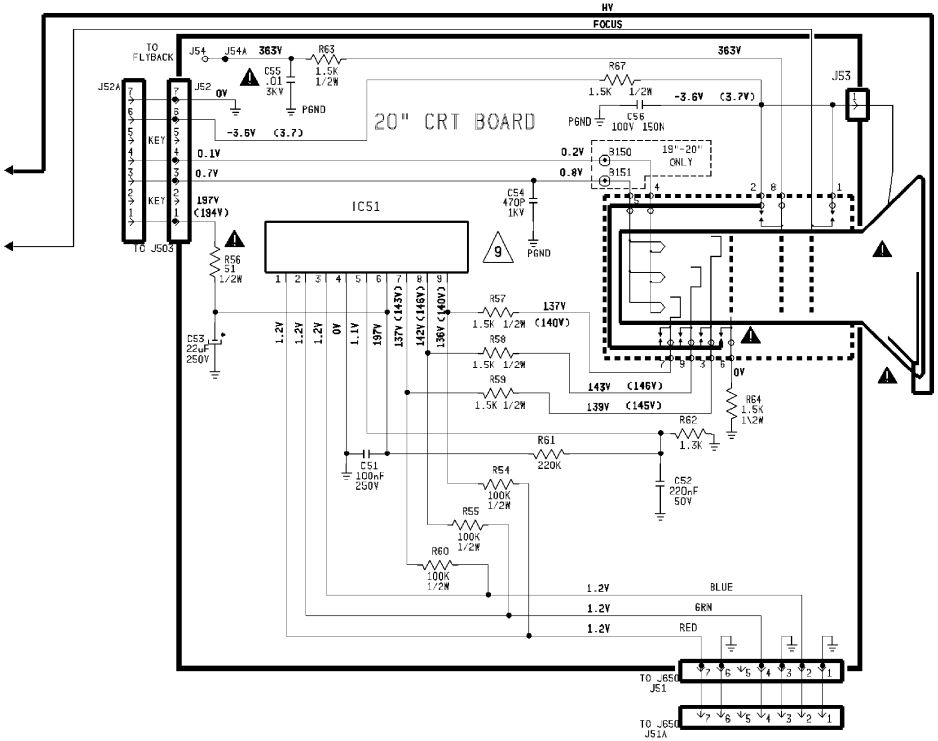


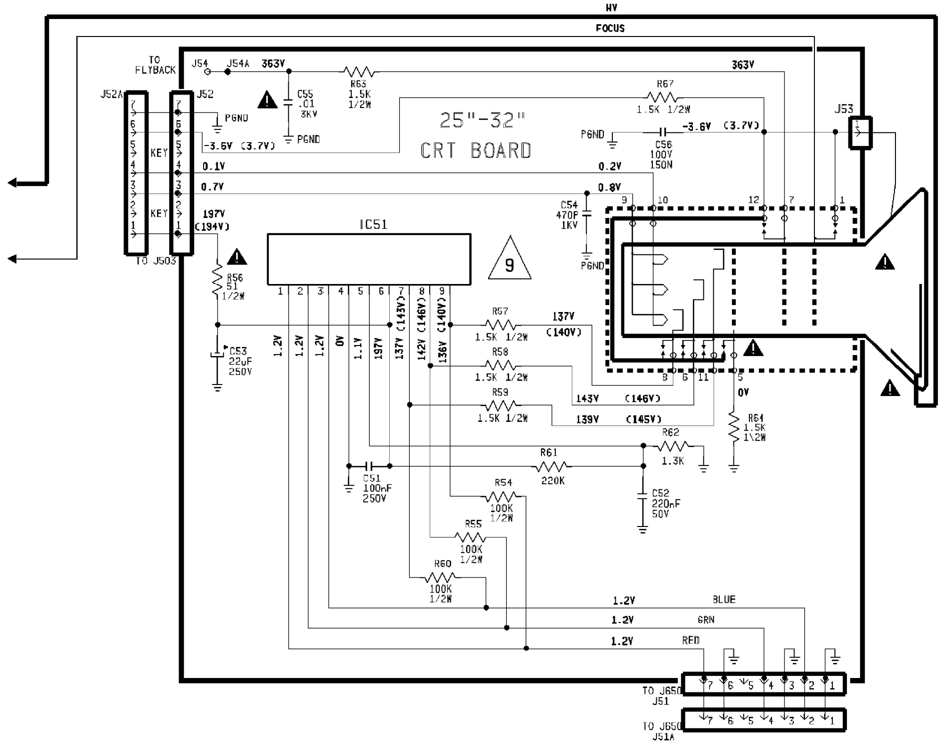

| AT MINIMUM BRIGHTNESS | |
|---|---|
| CRT SIZE | ANODE VOLTAGE K.V. (REF. ONLY) |
| 25 | 29.5 |
| 27 | 31.7 |
| 32 | 31.7 |

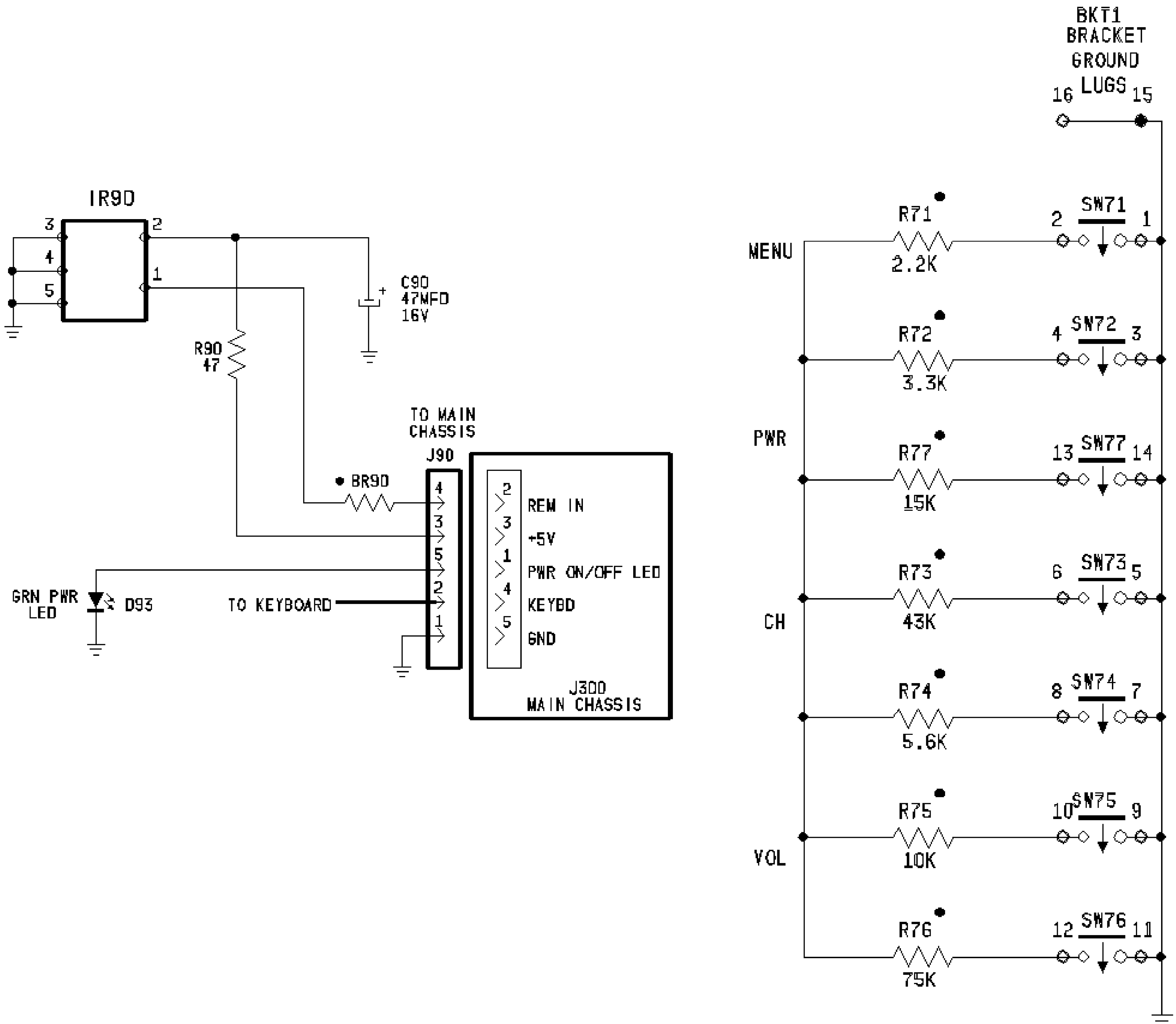

STEREO / AUDIO CIRCUITS
WITH IC 702
SPKR ON
SPKR OFF
Q706
SPKR ON/OFF
SWITCH
IC702
6W 2-CHAN AF
IC700
STEREO DECODER
TONE MODELS ONLY
TDA9855 52PIN
(TONE)
J700
SWITCHED JACK PANEL
VIDEO OUT
RT-VAR AUDIO OUT
LT-VAR AUDIO OUT
VIDEO IN
RT-AUDIO IN
LT-AUDIO IN
RIGHT SPKR
LEFT SPKR
RIGHT SPKR OUTPUT
LEFT SPKR OUTPUT
TO JACK PANL
470uF IN ALL EXCEPT 1000uF IN 8 Ohm
IN FOR NON STEREO SPREAD MODELS
TO INC_ST_SPRD BOARD NOT USED
TO INC_ST_SPRD BOARD
TO PRO_VIDEO JACK PANL
ProVideo AUDIO OUT
ProVideo AUDIO IN
SPKR_OFF (2M1)
VIDEO_OUT (3M7)
SDA (2M2) (1H3) (7C6)
SCL (2M3) (1H3) (7C6)
BB_AUDIO (6M3)
HORIZ_BLANKING (2M8) (4A2) (6F8) (7A4)
AUX_INPUT (6N8)
EXT_PIP_VIDEO (7B7)
IN FOR NON PIP
OUT FOR PRO VIDEO
EXT_CVBS (6H8)
DC_REF (2A1)
PIN15_IC300 (2A4)


TV SIGNAL PROCESSING CIRCUITS
Y200
SAW FILTER
IC200
SIGNAL PROCESSOR
Q208
HORIZONTAL
HOLD DOWN
Q200
VIDEO
BUFFER 1
Q205
VIDEO
BUFFER 2
Q204
GHOST
BUFFER
NOT USED
GHOST ONLY
Q903
Q299
RASTER
CORRECTION
CHROMA PROCESS
J200
TO CRT
J202
HIGH END
LOW END
BLUE
DRIVE
GREEN
DRIVE
BLUE
CUTOFF
GREEN
CUTOFF
RED
CUTOFF
CVBS_OUT
(TO COMB FILTER)
VERT
BB_AUDIO
AUX_INPUT
RASTER
FILTER
HORIZ_START
CHROMA_IN
AVL
TO_PIN_17_T300
AGC
Y
AFT
COIN
OSD_INT
BRIGHT
SHARPNESS
PICTURE
PIP_STAT
MAIN_VIDEO
MONO_VOL
COLOR
FAST_BLANKING
BLU
GRN
RED
TINT
HORIZ_CENT
HORIZ_DRIVE
HORIZ_BLANKING
EXT_CVBS
INT_EXT
INT
EXT
MONO ONLY
JMP IN FOR
STEREO ONLY
IN FOR
NON PIP
GTEST1
GTEST2
LT-AUDIO-IN

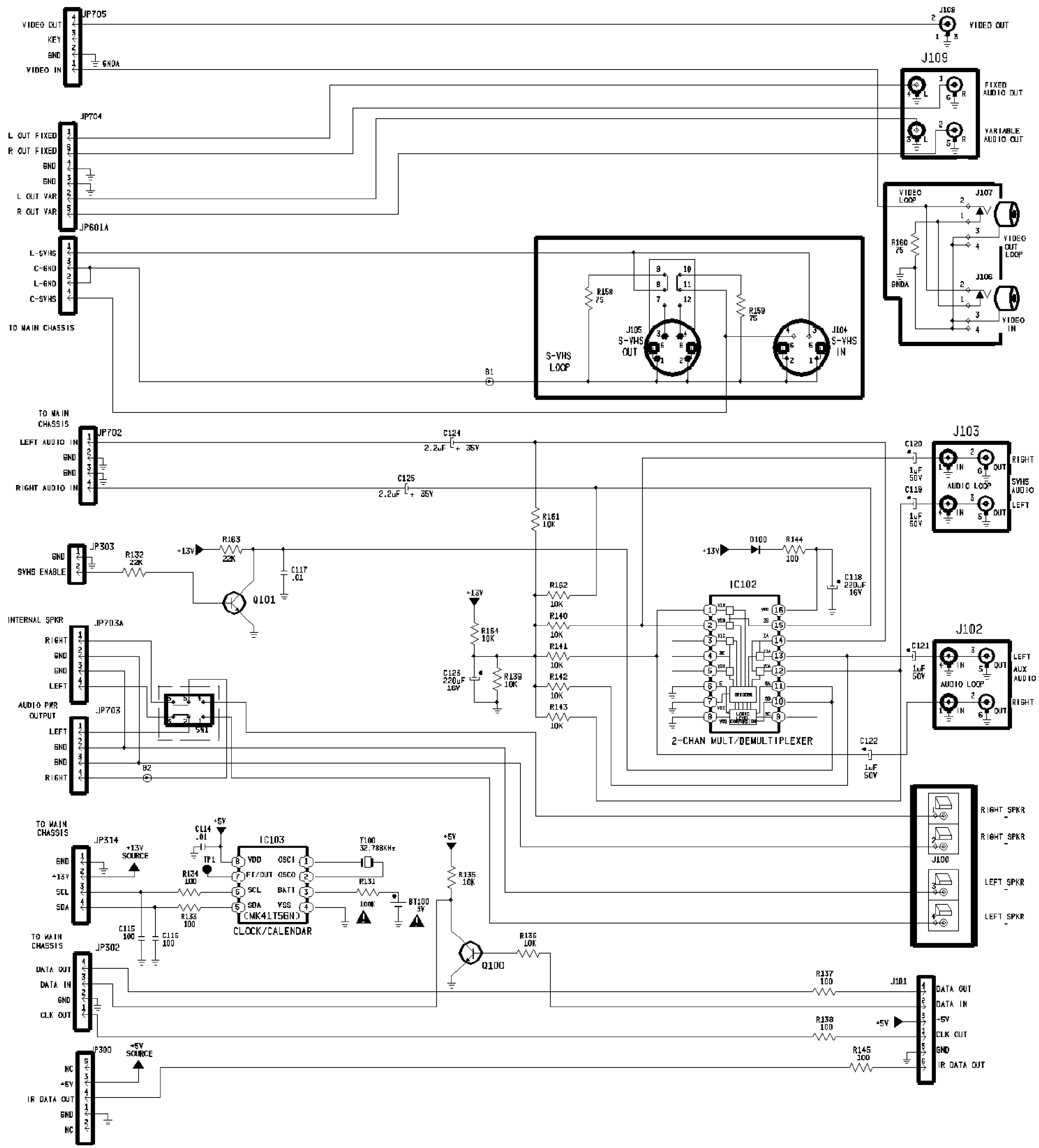


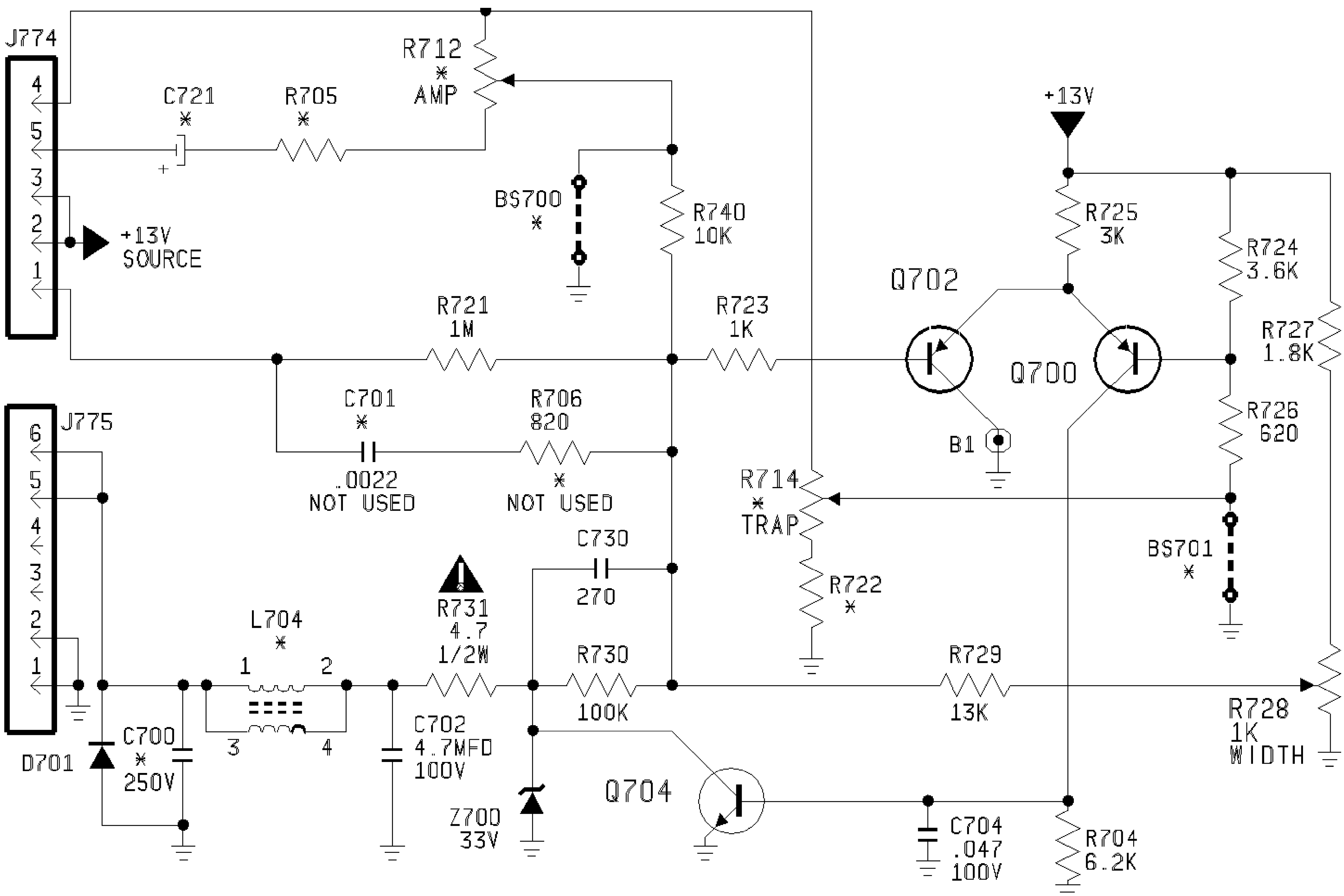

20" CRT BOARD
IC51
HV
FOCUS
TO FLYBACK
J54
J54A
363V
R63
1.5K
1/2W
C55
.01
3KV
PGND
J52A
J52
J53
R67
1.5K
1/2W
C56
100V 150N
-3.6V (3.7V)
0.2V
0.8V
B150
B151
19"-20" ONLY
C54
470P
1KV
0.1V
0.7V
197V
(194V)
TO J503
R56
51
1/2W
C53
22uF
250V
R57
1.5K 1/2W
137V
(140V)
R58
143V (146V)
R59
139V (145V)
R62
1.3K
R64
1.5K
1\2W
R61
220K
C51
100nF
250V
C52
220nF
50V
R54
100K
1/2W
R55
R60
1.2V
BLUE
GRN
RED
TO J650
J51
J51A


25"-32" CRT BOARD
IC51
HV
FOCUS
TO FLYBACK
J54
J54A
363V
R63
1.5K
1/2W
C55
.01
3KV
PGND
J52A
J52
J53
R67
1.5K 1/2W
C56
100V
150N
-3.6V (3.7V)
0.2V
0.8V
C54
470P
1KV
0.1V
0.7V
197V
(194V)
TO J503
R56
51
1/2W
C53
22uF
250V
R57
1.5K 1/2W
137V
(140V)
R58
143V (146V)
R59
139V (145V)
R62
1.3K
R64
1.5K
1\2W
R61
220K
C51
100nF
250V
C52
220nF
50V
R54
100K
1/2W
R55
R60
1.2V
BLUE
GRN
RED
TO J650
J51
J51A

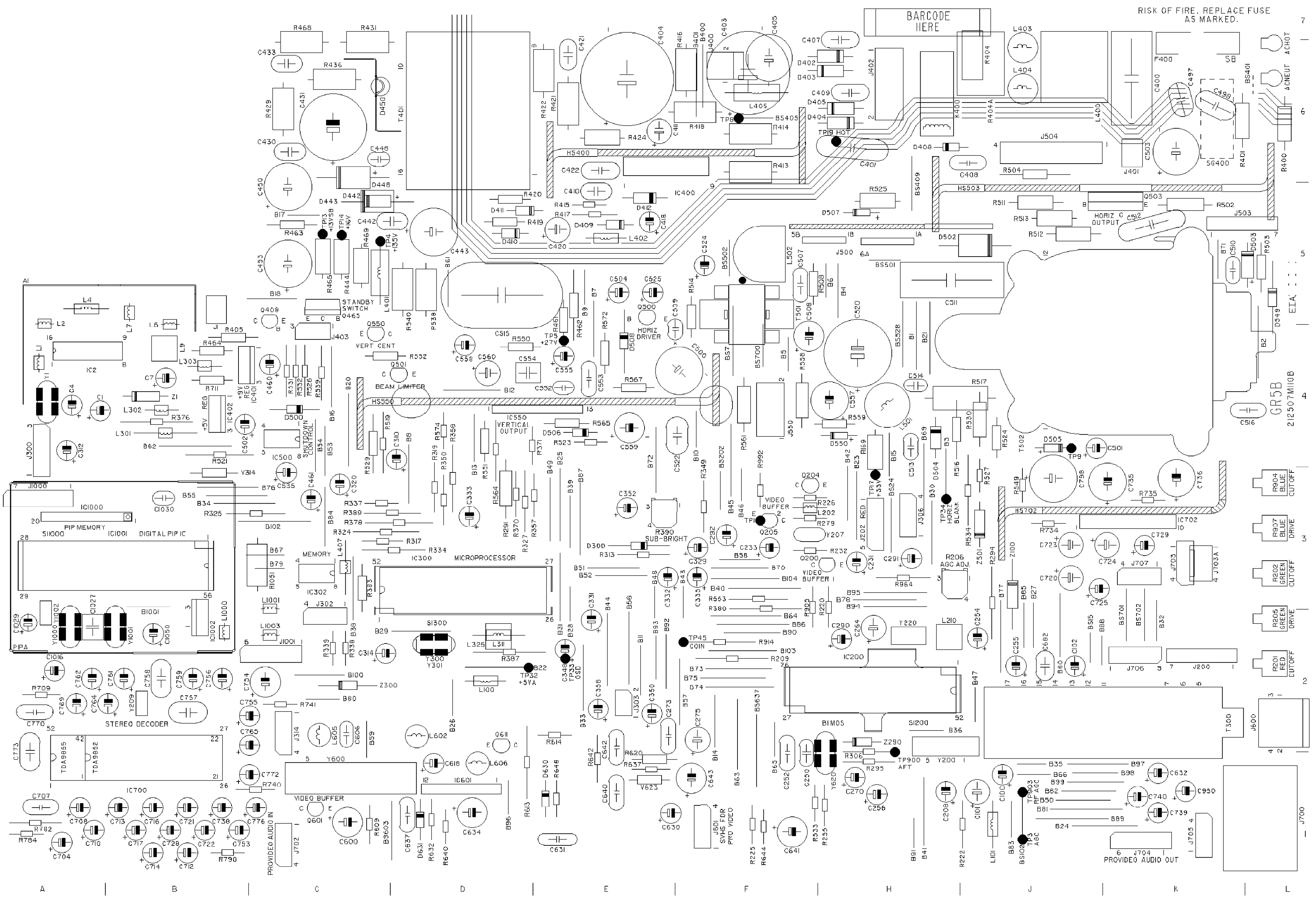

IR9D
3
4
5
2
1
C90
47MFD
16V
R90
47
TO MAIN
CHASSIS
J90
BR90
4
3
5
2
1
GRN PWR
LED
D93
TO KEYBOARD
2
REM IN
3
+5V
1
PWR ON/OFF LED
4
KEYBD
5
GND
J300
MAIN CHASSIS
BKT1
BRACKET
GROUND
LUGS
16
15
MENU
PWR
CH
VOL
R71
2.2K
R72
3.3K
R77
15K
R73
43K
R74
5.6K
R75
10K
R76
75K
SW71
SW72
SW77
SW73
SW74
SW75
SW76
2
1
4
3
13
14
6
5
8
7
10
9
12
11

All Models (7538) - PRO-VIDEO JACK PANEL AVJ177

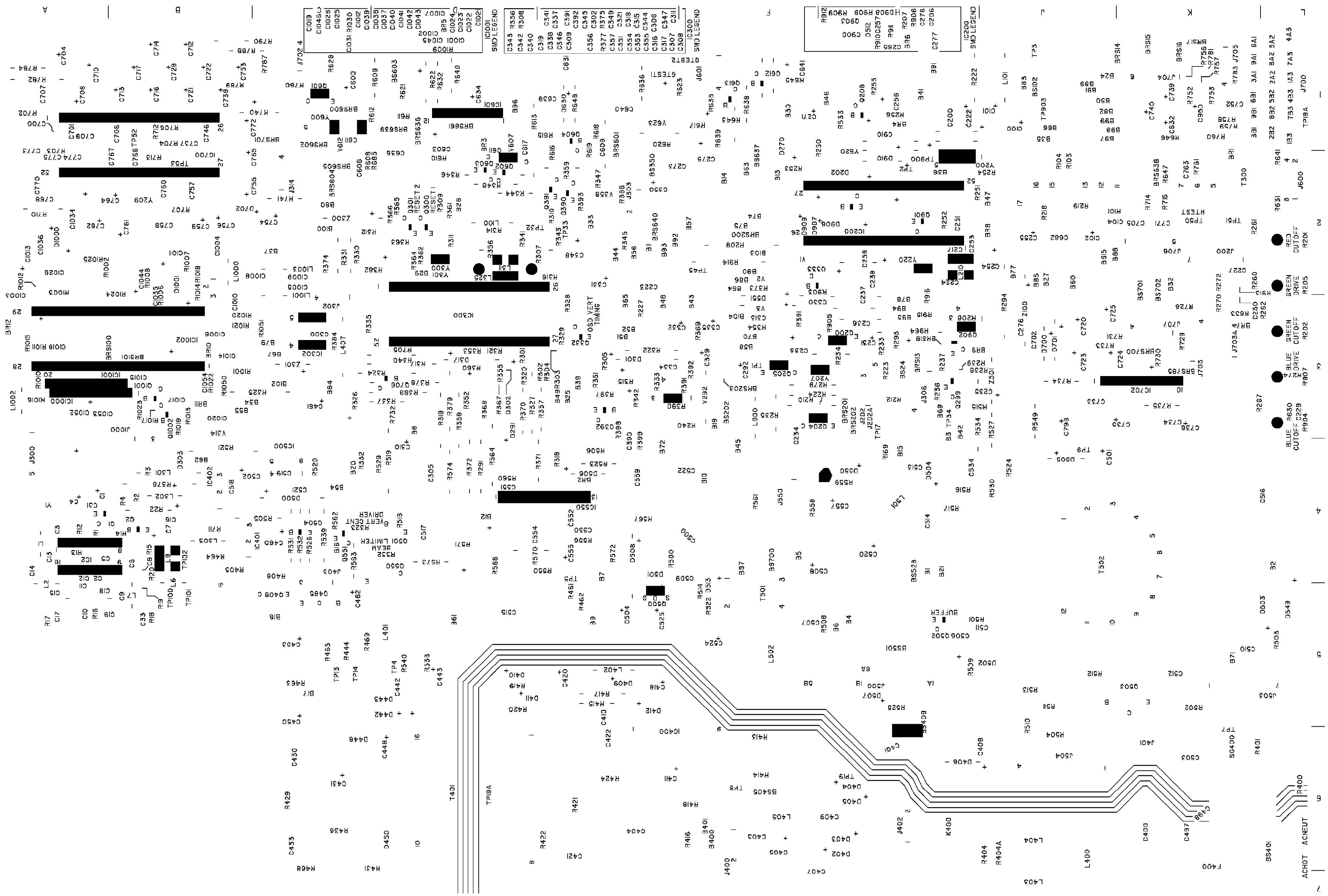


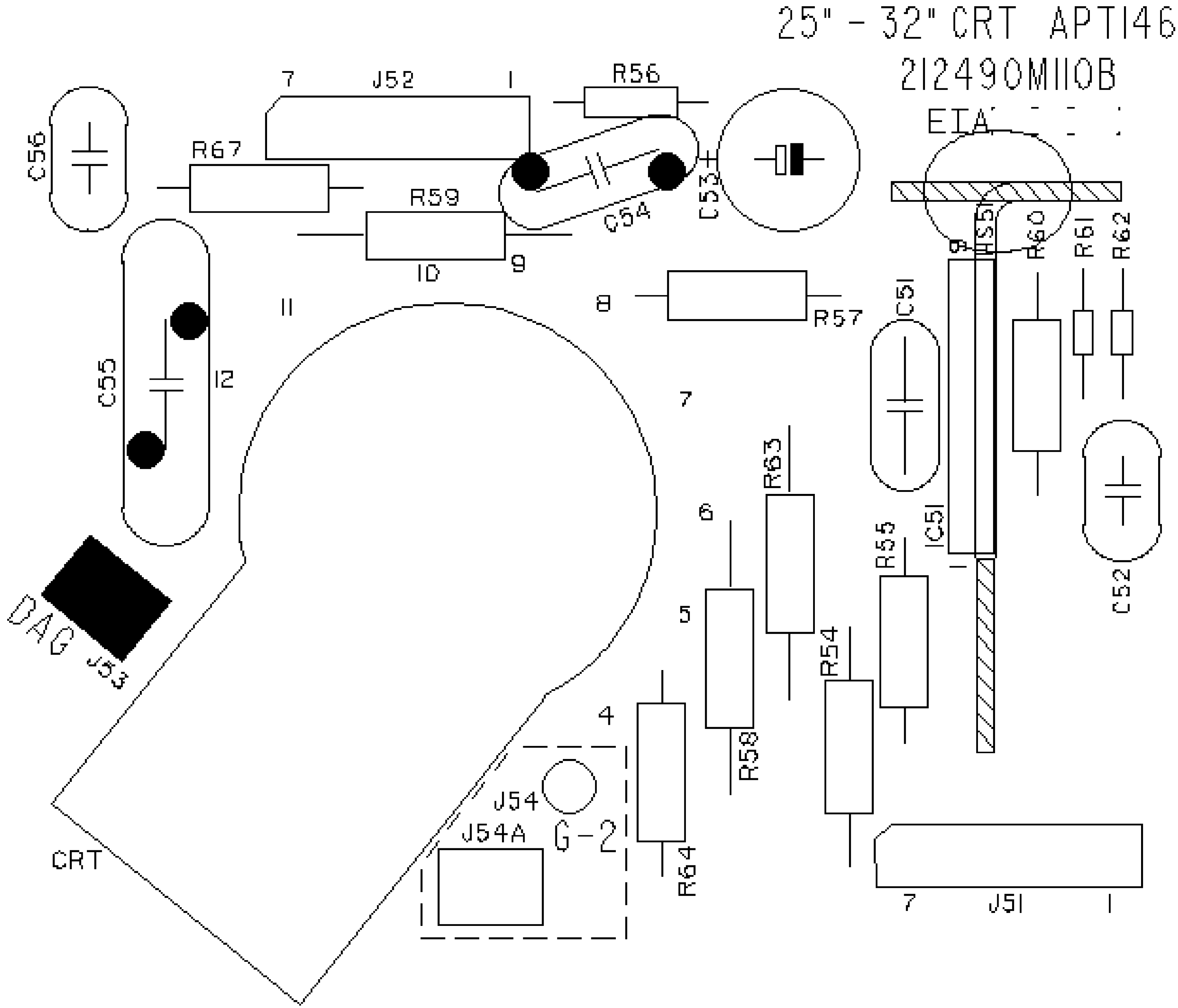

J774
C721
*
R705
*
R712
*
AMP
+13V
SOURCE
BS700
*
R740
10K
+13V
R725
3K
R724
3.6K
Q702
R721
1M
R723
1K
Q700
R727
1.8K
R726
620
J775
C701
*
R706
820
B1
.0022
NOT USED
*
NOT USED
R714
*
TRAP
BS701
*
C730
270
R722
*
L704
*
R731
4.7
1/2W
R730
100K
R729
13K
R728
1K
WIDTH
D701
C700
*
250V
C702
4.7MFD
100V
Z700
33V
Q704
C704
.047
100V
R704
6.2K

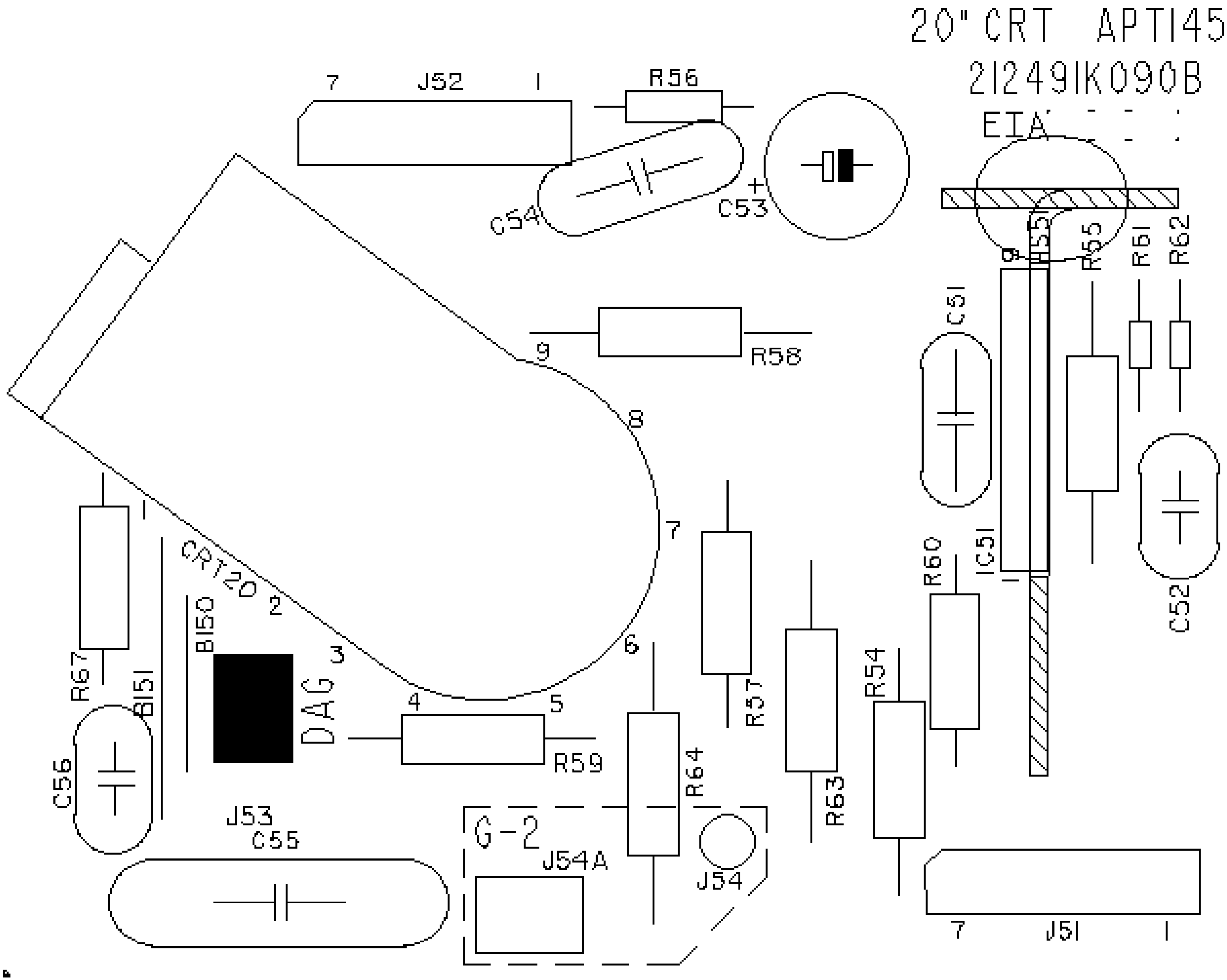
All Models (7538) - R5 MAIN CHASSIS PCB (TOP VIEW)

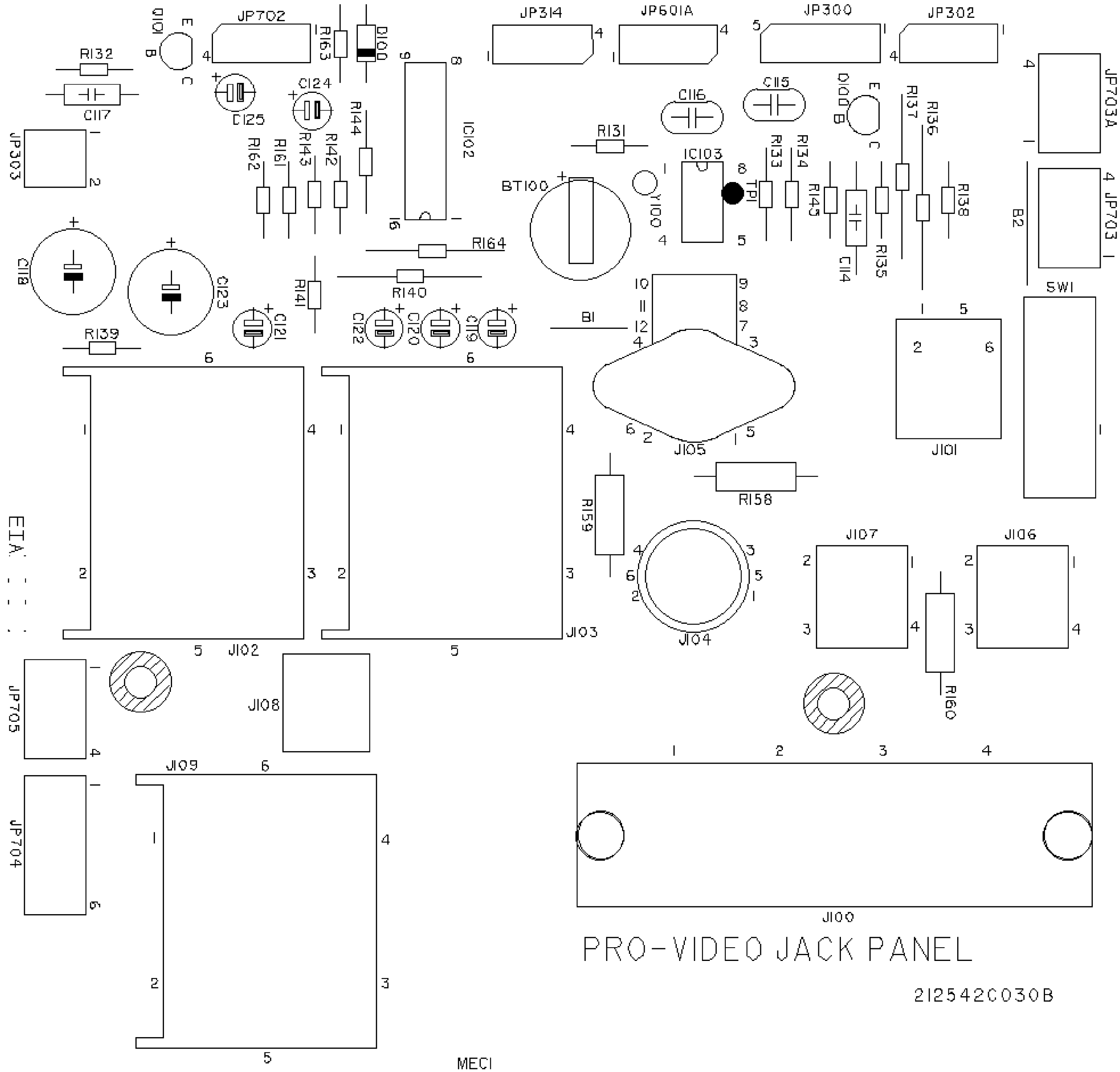


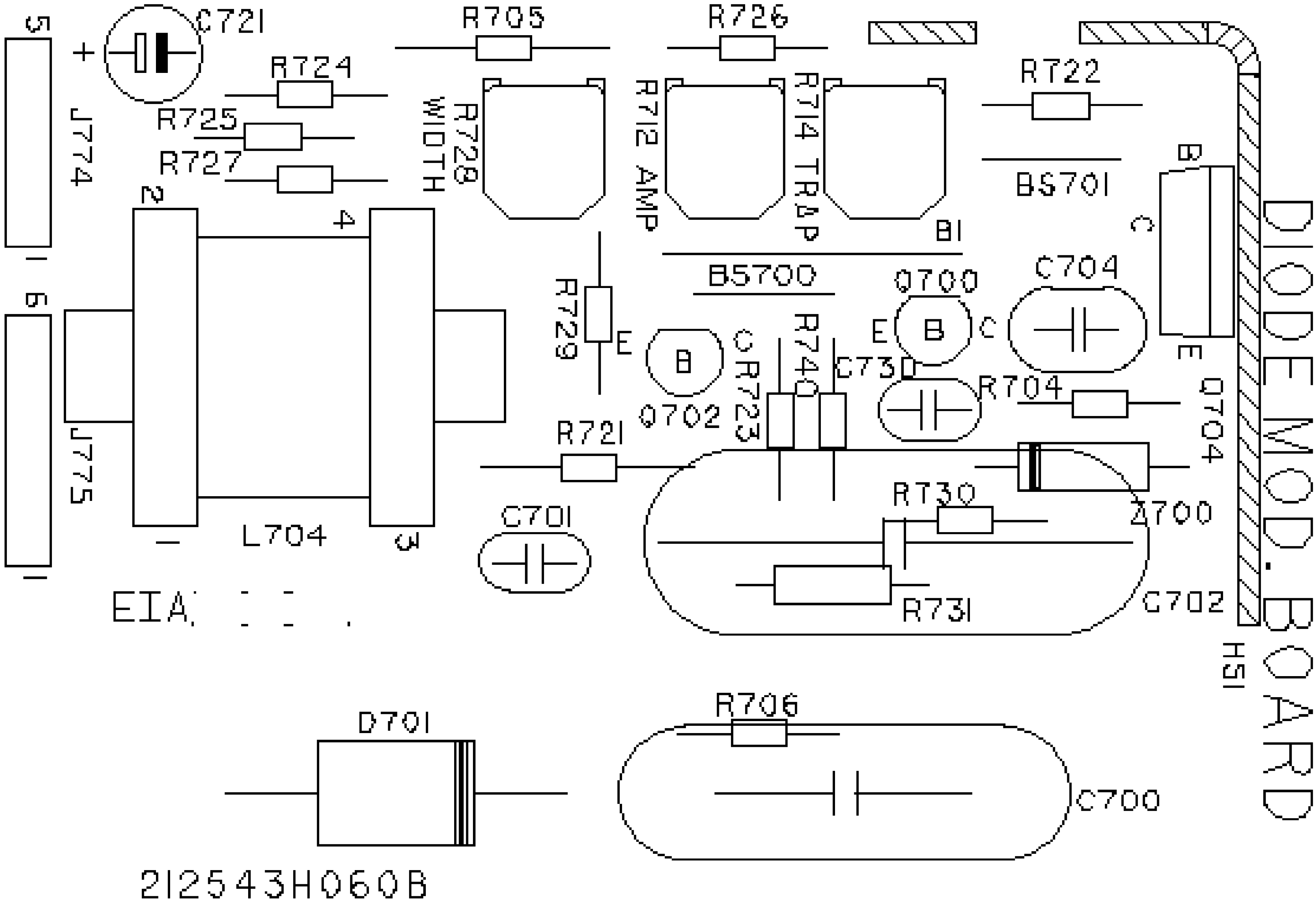
All Models (7538) - MAIN CHASSIS PCB (BTM VIEW)



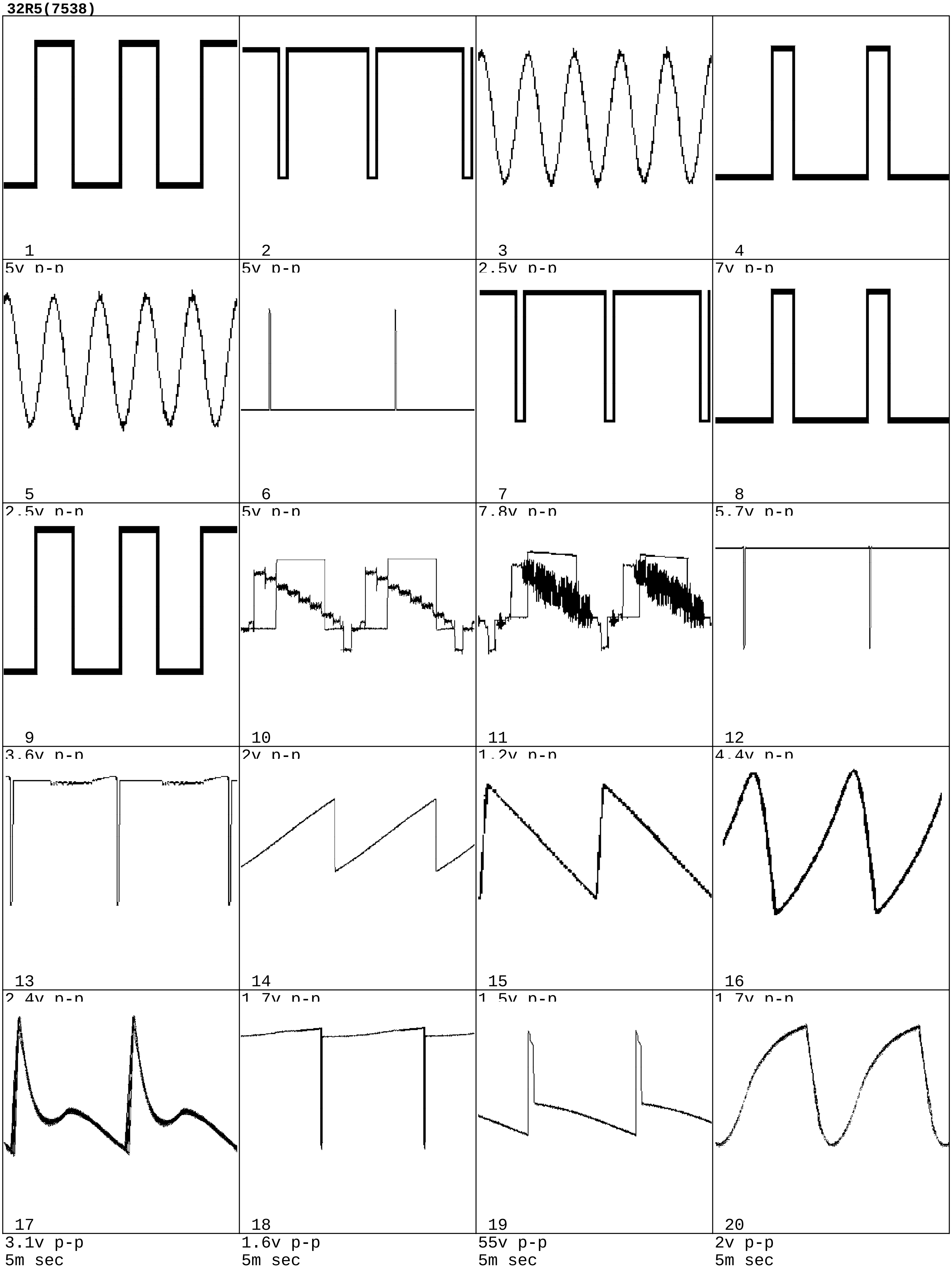

25" - 32" CRT APT146
212490M110B
EIA
J52
R56
R67
R59
C56
C54
C53
C55
R57
C51
R60
R61
R62
HS51
R63
R55
R54
R58
R64
C52
DAG
J53
J54
J54A
G-2
CRT
J51


20" CRT APT145
21249IK090B
EIA
7
J52
1
R56
C54
C53
+
R55
R55
R51
R62
9
9
R58
C51
8
7
CRT20
2
3
4
5
6
R67
B151
B150
DAG
R59
R57
R64
R63
R54
R60
IC51
C52
C56
J53
C55
G-2
J54A
J54
7
J51
1

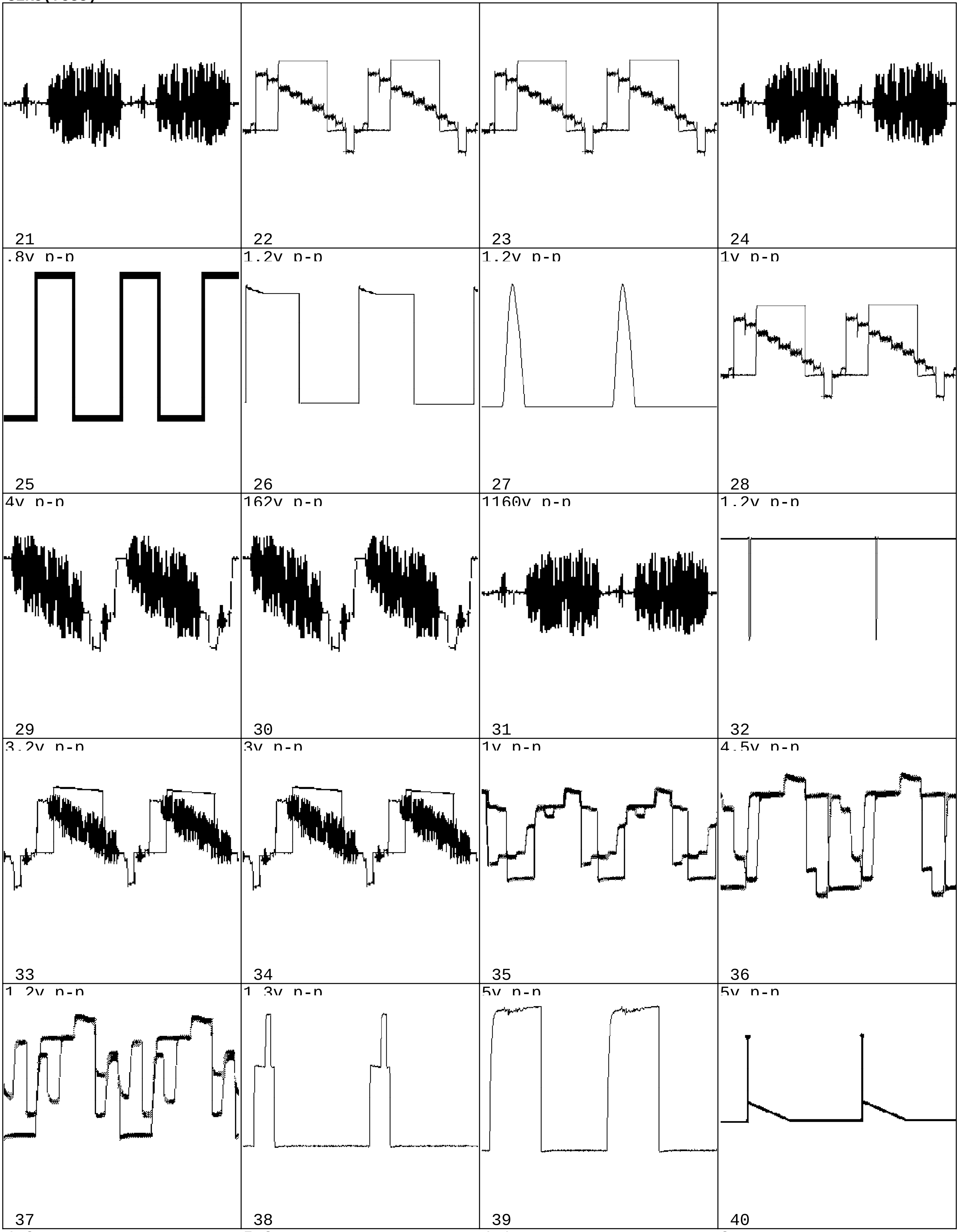

JP702
JP314
JP601A
JP300
JP302
JP703A
JP703
JP303
JP705
JP704
R132
C117
C125
C124
D101
D100
R163
IC102
IC103
BT100
Y100
TP1
C116
C115
R131
R133
R134
R145
C114
R135
R137
R136
R138
B2
SW1
R162
R161
R143
R142
R144
R164
R140
R141
C118
C123
C121
C122
C120
C119
R139
B1
J105
J101
J102
J103
R159
R158
J104
J107
J106
R160
J108
J109
J100
EIA
MEC1
PRO-VIDEO JACK PANEL
212542C030B


C721
R705
R726
R724
R725
R727
R722
J774
R728 WIDTH
R712 AMP
R714 TRAP
B5701
B1
B5700
Q700
C704
R729
Q702
R723
R740
C730
R704
Q704
R721
R730
Z700
C701
L704
R731
C702
EIA
DIODE MOD. BOARD
H51
J775
R706
D701
C700
212543H060B

**32R5(7538)**


1
5v p-p
2
5v p-p
3
2.5v p-p
4
7v p-p
5
2.5v p-p
6
5v p-p
7
7.8v p-p
8
5.7v p-p
9
3.6v p-p
10
2v p-p
11
1.2v p-p
12
4.4v p-p
13
2.4v p-p
14
1.7v p-p
15
1.5v p-p
16
1.7v p-p
17
3.1v p-p
5m sec
18
1.6v p-p
5m sec
19
55v p-p
5m sec
20
2v p-p
5m sec

**32R5(7538)**




| | | | |
|---|---|---|---|
| 4.8v p-p | 5.2v p-p | 4.1v p-p | 3v p-p |
| 20µ sec | 20µ sec | 20µ sec | 5m sec |